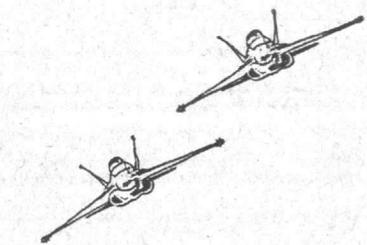
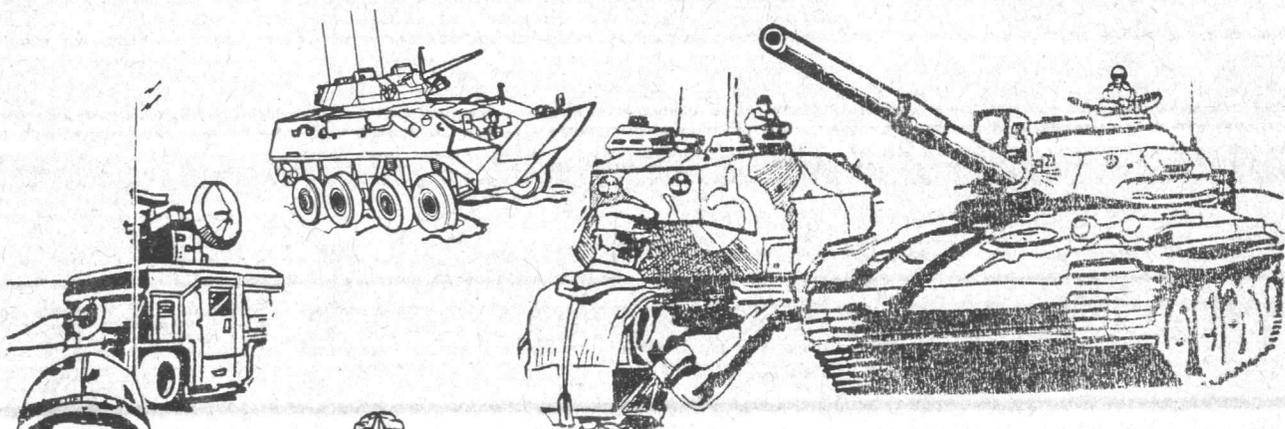


STANDING OPERATING PROCEDURE FOR RANGE CONTROL

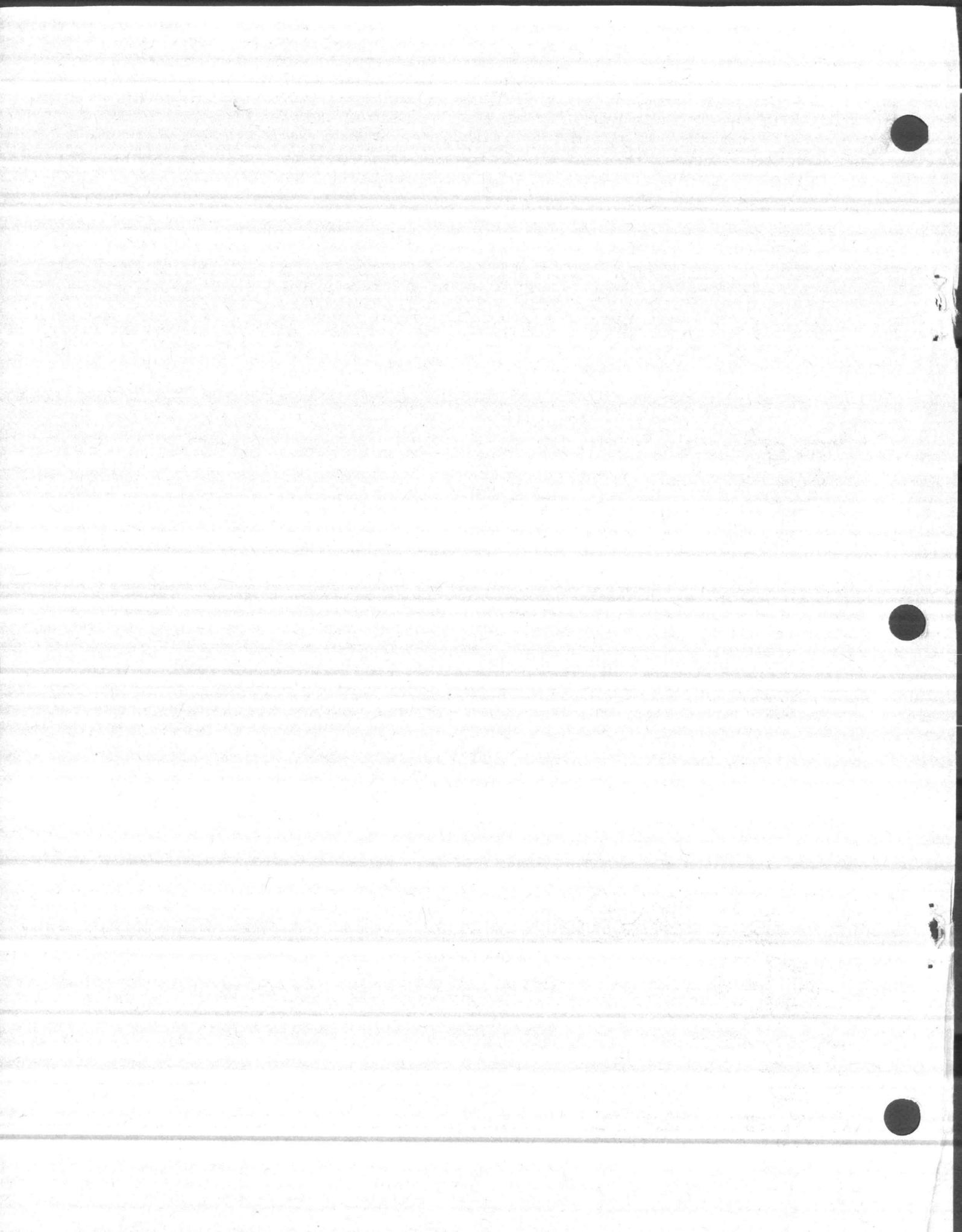


Marine Rifle Squad



MARINE CORPS BASE,
CAMP LEJEUNE, N.C.





Dist 7
SOP



UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

BO P11102.1K
RCTL/kae
11 Oct 1985

CHANGE 1 INCORPORATED

BASE ORDER P11102.1K

From: Commanding General
To: Distribution List

Subj: Standing Operating Procedures for Range Control Operations (Short Title:
Range Control SOP)

Ref: (a) MCO P3570.1A

Encl: (1) LOCATOR SHEET

1. Purpose. To promulgate regulations for the assignment, control, safe use, and maintenance of ranges at Camp Lejeune to include live field firing ranges, maneuver areas and field training facilities under the control of the Commanding General, Marine Corps Base. To provide information and instructions regarding training services available to units training at Camp Lejeune.

2. Cancellation. BO P11102.1J.

3. Action

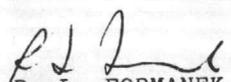
a. This Manual is effective 0001, 1 November 1985. This allows coordination, dissemination of new procedures, and recomputation of safety data.

b. A copy of this Manual will be published in standard size and will serve as the base range control safety regulations. All personnel involved in the utilization of live firing ranges, maneuver areas, helicopter landing/drop zones and air operations will be thoroughly familiar with these safety regulations and each Officer in Charge of Firing, Range Safety Officer or Forward Air Controller will possess a copy of these regulations at all times when such training exercises are in progress.

4. Summary of Revisions. This revision contains a substantial number of changes and should be completely reviewed.

5. Recommendations. Recommendations for the improvement of base ranges and training/maneuver areas, including the enhancement of safe usage of live fire ranges, should be submitted through the appropriate chain of command.

6. Certification. Reviewed and approved this date.


R. L. FORMANEK
Chief of Staff

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Seymour Johnson AFB (25)
MAG-26 (35)
MAG -29 (35)
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Defense Training Data & Analysis Center , Orlando, Florida
Range Control (700)
Range Control (1750) reduced size copies (5 1/4 x 7 1/4)

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

BO P11102.1K Ch 1
RCTL/kae
1 Dec 1986

BASE ORDER P11102.1K Ch 1

From: Commanding General
To: Distribution List

Subj: STANDING OPERATING PROCEDURES FOR RANGE CONTROL OPERATIONS (SHORT TITLE:
RANGE CONTROL SOP)

Encl: (1) New page inserts to BO P11102.1K

1. Purpose. To transmit new page inserts and direct pen changes to the basic Manual.

2. Action

a. Insert new pages 2-3a, 4-14a.

b. Remove present pages 3-5, 3-6, 4-11, 4-12, 4-13, 4-14, B-27, B-28, B-31, B-32, B-37, B-38, B-55, B-56, B-57, B-58, B-59, B-60, B-61, B-62, B-63, B-64, B-65, B-66, D-1, and D-2 of the basic Order and replace with corresponding pages contained in the enclosure hereto.

c. In appendix B, pages B-14, B-15, and B-17 delete F-9, F-10 and F-12 accordingly.

d. In the basic Order, paragraph 1002.5a, change the number "3004" to read "3003."

e. Paragraph 4003.1d, change the words "(A vehicle designated as a safety vehicle is recommended.)" to read, "Also ensure an emergency vehicle is on standby at the range in use."

f. Under paragraph 4013.3c(2) add, "LZ Condor cannot be used for parachute operations if range L-5 or the Base Rifle Ranges are conducting live fire training."

g. Appendix B, page 10, line two, under Special Instructions, change 900 meters to read 100 meters.

h. Appendix B, page 21, paragraph Special Instructions, add the following: "The G-3/OP-5 area is not authorized for bivouaging."

i. Appendix B, page 24, paragraph Special Instructions, line four, delete "and MAG-29 EOD teams and Second FSSG Platoon."

3. Summary of Changes. This change contains a substantial number of changes and should be completely reviewed.

4. Change Notation. Significant changes contained in the revised pages for this Change are denoted by an arrow (➡) symbol.

5. Filing Instructions. This promulgation page will be filed immediately following page 2 of the basic Manual.

6. Certification. Reviewed and approved this date.


M. C. HARRINGTON
Chief of Staff

DISTRIBUTION: A-1 plus CMC (T)
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Range Control (700)
Range Control (1750) reduced size copies (5-1/4 x 7-1/4)

LOCATOR SHEET

Subj: Standing Operating Procedures for Range Control Operations (Short Title:
Range Control SOP)

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





RANGE CONTROL SOP

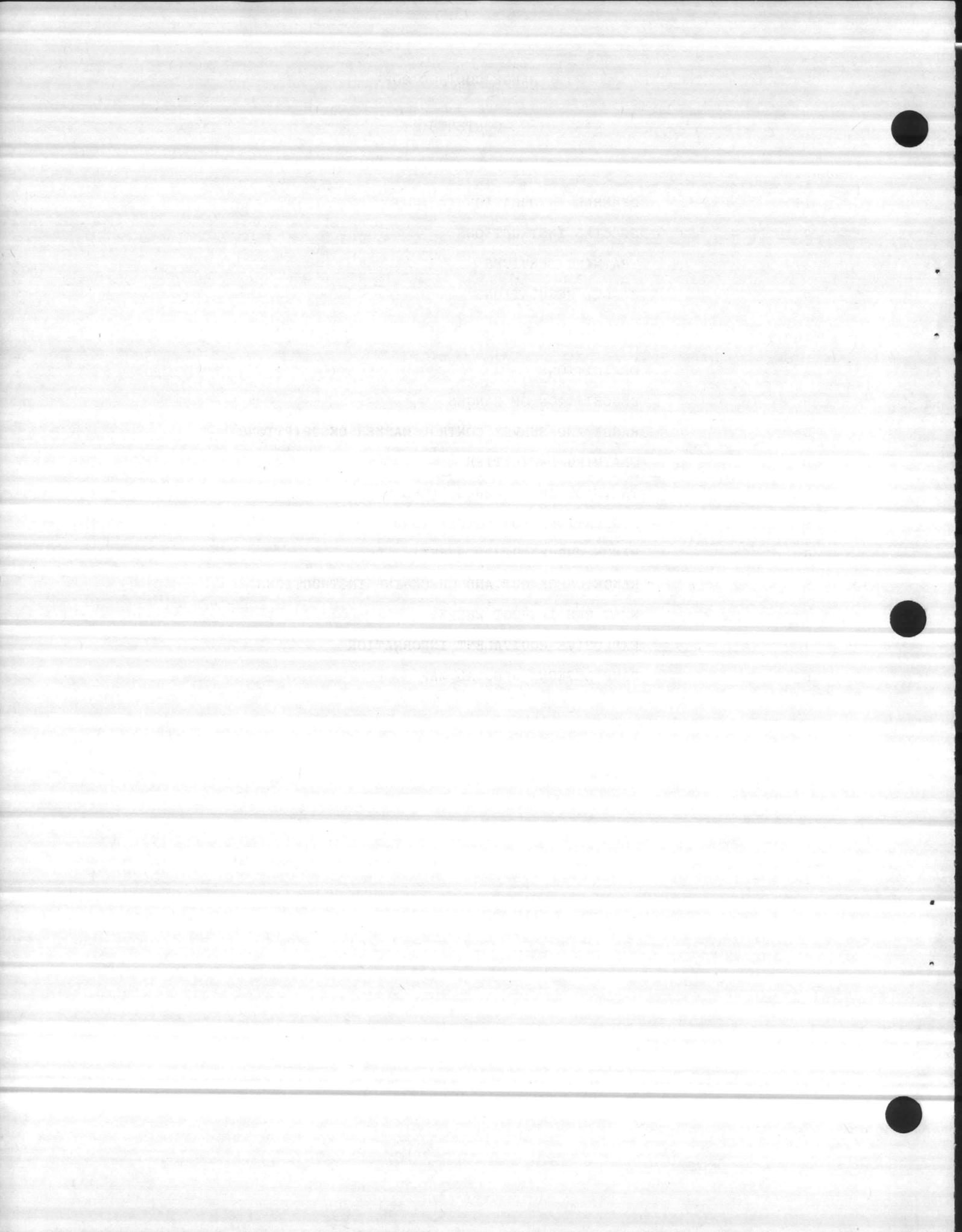
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- 3 TRAINING SERVICES
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- D TRAINING FACILITIES
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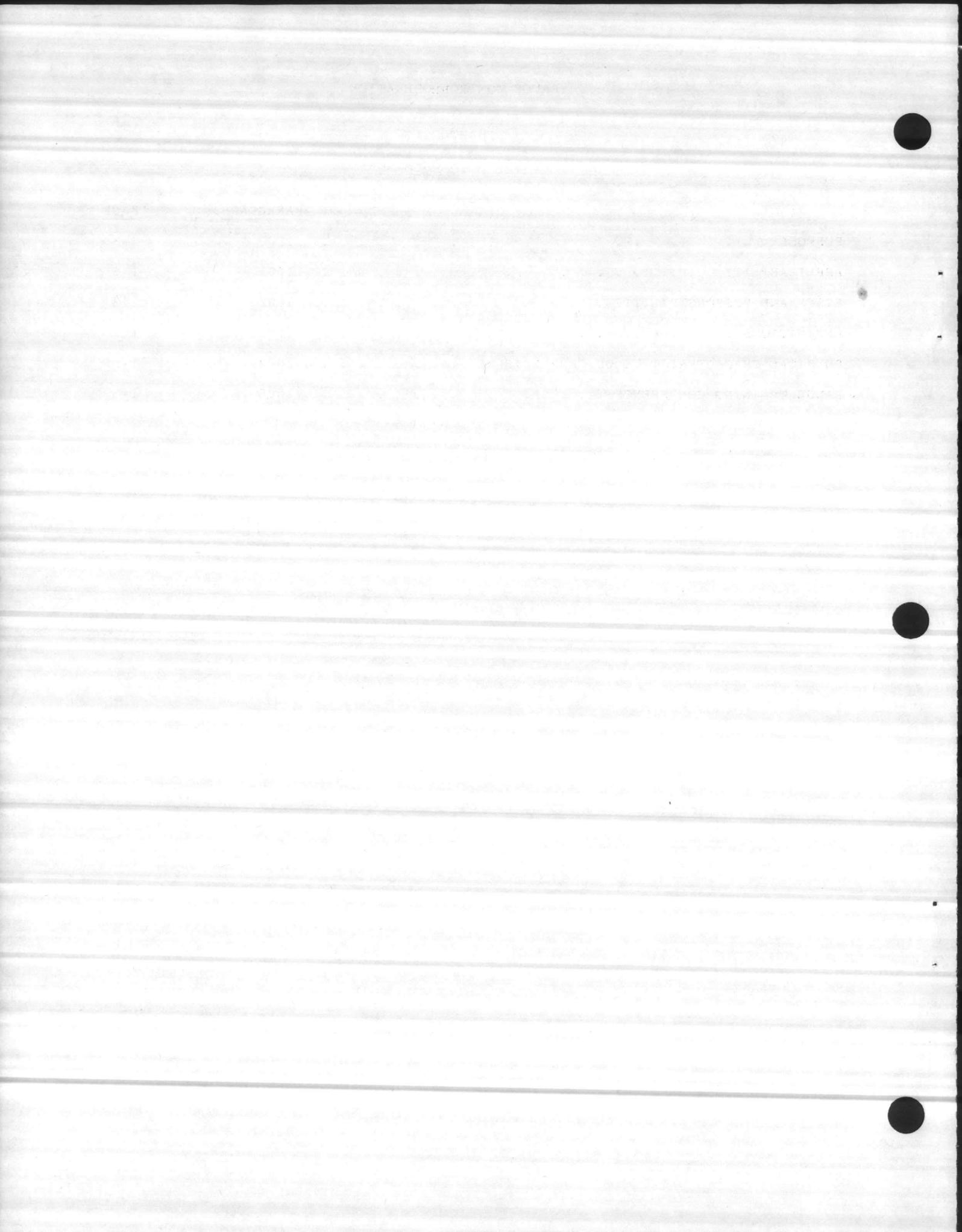


RANGE CONTROL OPERATIONS

CHAPTER 1

GENERAL INFORMATION

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RANGE CONTROL SOP

CHAPTER 1

GENERAL INFORMATION

1000. PURPOSE. The purpose of this SOP is to provide a concise and comprehensive source document for commands using training areas, ranges, and services at Marine Corps Base, Camp Lejeune. It specifically delineates responsibilities, describes ranges available for training, provides instructions on how to obtain training areas, ranges, and services, and outlines safety regulations for all live fire ranges and air operations at Camp Lejeune.

1001. APPLICABILITY. This Manual is applicable to all personnel training in the air or water space or training facilities of this Base.

1002. STAFF AND RESPONSIBILITIES

1. Assistant Chief of Staff Training and Operations (AC/S Trng & Ops)

a. Plans, coordinates and supervises the operations of the Range Control Officer (RCO) and range operations.

b. Formulates the policies for scheduling assignments, maintenance, and minor construction of training facilities.

c. Promulgates appropriate directives, correspondence, and messages regarding training areas, ranges and services.

d. Plans for the future development of training areas, ranges and services.

e. Chairs the Range Facility Management (RFM) Committee (See current edition of BO 11101.2 for additional information).

f. Conducts a continuing review to insure safety regulations are adequate for all training areas, ranges and services.

g. Sponsors an aggressive educational and enforcement program in accordance with reference (a).

2. Assistant Chief of Staff, Facilities (AC/S, Fac)

a. Presents to the Resource Board for Facilities Development Programs, range development projects for inclusion in the Military Construction Program.

b. Recommends to the Resource Board for Facilities Development Programs, the priorities of the approved development projects to be accomplished by Base assets.

c. Assists in the RFM process to include coordination of technical support for range development, including design, supervision, material adequacy and cost estimation.

d. Establishes the working arrangement and material support for all Troop Training Projects related to training areas, ranges and services.

3. Range Control Officer (RCO)

a. Assists the AC/S, Trng and Ops in the execution of the responsibilities established in this SOP.

b. Coordinates the scheduling assignments and maintenance of all training areas, ranges and services by:

(1) Publishing a Weekly Firing Notice of all scheduled field firing and high ordinate air space utilization in accordance with reference (a).

(2) Preparing and requesting publication of a weekly Notice to Mariners describing the air space and water within which live firing will be conducted.

(3) Assigning priorities for the use of ranges, air space, and waterways in the Weekly Firing Notice.

(4) Approving all changes to the Weekly Firing Notice.

c. Supervising the coordination and control necessary to insure all safety requirements are established and maintained by using units. All live firing will be coordinated through and approved by the Range Control Officer.

d. Providing a Range Control Duty Officer (RCDO) during all live firing, live firing training exercises, paradrops and live firing aircraft operations to insure safe relationships between using units.

e. Conducting field safety inspections.

f. Supervising established range safety educational programs.

g. Exercising direct operational control as the Command's designated authority for all air, land and sea space assigned to the Commanding General, Camp Lejeune.

h. Regulating traffic in and on the navigable waters at Camp Lejeune as delegated by Federal law.

i. Executing his duties and responsibilities as specified herein and in applicable regulations through the management and supervision of the following sections comprising Range Control:

(1) Range Admin/Scheduling

(2) Range Services and Support

(3) Range Maintenance

(4) Base Gas Chamber

(5) Base EOD

(6) Boat Crew

4. Base Communication-Electronics Officer (CEO)

a. Budgets for the procurement of commercial communications equipment and provides authorized operating frequencies for Range Control. Requirements will be identified to the CEO by the Range Control Officer well in advance of desired implementation so proper budget initiatives and frequency assignment can be accomplished.

b. Provides maintenance support to ensure operational capability of all communications equipment provided to Range Control.

c. Provides technical assistance when requested and jointly reviews, with the Range Control Officer, communications assets provided.

d. Ensures all field MAG lines and range telephones are properly maintained.

5. Base Explosive Ordnance Disposal Officer (EOD)

a. Provides routine EOD support as directed by the RCO. See paragraph 3004,

b. Establishes emergency EOD support to commands at Camp Lejeune and local authorities as required.

c. Advises the RCO on the placement, maintenance and replacement of all targets on live firing ranges at Camp Lejeune.

d. Supervises the operation of EOD ranges under his control, promulgates safety regulations in accordance with existing directives.

6. Base Maintenance Officer (BMO)

a. Conducts annual training facilities inspection with the Range Control Officer and prepares a list of facilities requiring maintenance. Designates projects which will be accomplished by Base Maintenance, those within the capabilities of Range Maintenance, or those which should be accomplished by contract. The final approval of these actions and prioritization rest with the AC/S, Trng & Ops in concert with the AC/S, Fac.

b. Programs and budgets for the maintenance of training facilities. Assigns appropriate job order numbers to the Range Control Officer to accomplish maintenance of certain roads and grounds, buildings and structures, and for heavy equipment usage. Maintains secondary roads and tank trails including drainage culverts in accordance with priorities established by the AC/S, Trng & Ops.

c. Provides materials support to RCO for maintenance of range structures. This normally includes all construction/repair beyond routine target and range upkeep.

7. Assistant Chief of Staff, Morale, Welfare, Recreation & Family Advocacy (Special Services Director)

a. Assumes responsibility for safety of live-fire ranges and training pools operated as part of the command special services program.

b. Publishes instruction/directives as necessary regarding the scheduling and operations of training facilities when used by special services for recreational purposes.

8. Commanding Officer, Rifle Range Detachment. Ensures rifle range facilities are utilized in accordance with this SOP and other pertinent directives.

9. Provost Marshal (PMO)

a. Assists the RCO in law enforcement on training ranges, areas and navigable waters within the jurisdiction of the CG, MCB, Camp Lejeune. This includes the assignment of military policemen aboard Range Control boats as necessary.

b. Ensures the Base Game Warden operates in close coordination with the RCO.

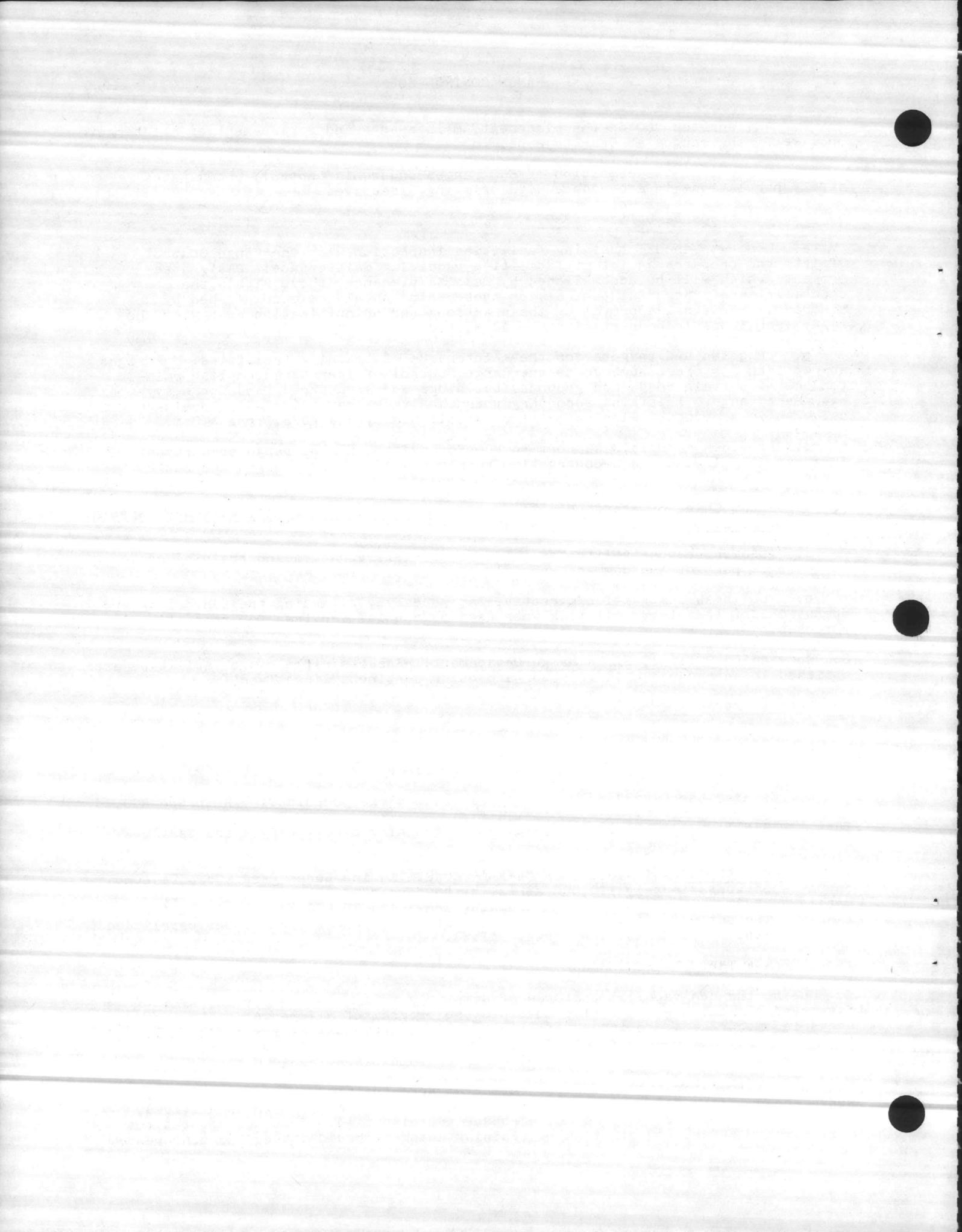
1003. DEFINITIONS. Definitions peculiar to training areas, ranges and services are contained in Appendix A - Glossary.

1004. PHYSICAL CHARACTERISTICS OF CAMP LEJEUNE. Marine Corps Base, Camp Lejeune encompasses approximately 110,000 acres, 81,000 acres of which is land. Approximately 40,000 acres are devoted to training areas and 30,000 contain field firing ranges. The perimeter is nearly 68 miles, with 14 miles of ocean front paralleled by the Atlantic Intracoastal Waterway (AIWW).

1005. RANGE TRAINING CONFERENCE

1. Due to the geographical features of Camp Lejeune and the number and type of live ranges available, an active multiple-use program of all ranges and maneuver areas is encouraged. To insure efficient and equitable use of available facilities, a weekly range control coordination conference with major unit S-3's (Regt or SepBn) is held each Wednesday at 0800 in building 1404, Range Control.

2. In addition to planning and projecting advance training requirements (3 to 9 weeks ahead), live fire safety data (Weekly Range Bulletin), known check fires, road closures, boat crew needs and airspace are discussed. Unit representatives qualified to effect coordination or training changes should attend the conference.



RANGE CONTROL SOP

CHAPTER 2

SPECIAL INSTRUCTION

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RANGE CONTROL SOP

CHAPTER 2

SPECIAL INSTRUCTIONS

2000. SCHEDULING

1. Firing Notice Requirements. Range Control is the primary scheduling agency for all base training facilities and ranges listed in paragraph 2000.2, except the rifle range.

a. To schedule training areas, ranges and services, requests must be received no later than 1600 Monday, fourteen (14) days prior to the first day of the training week.

b. Requests must be submitted on the Training Area Request (TAR), via the chain of command, to the Range Control Officer. Approved TAR's are returned by endorsement and listed in the Weekly Firing Notice.

c. Late requests for training events requiring Notices to Mariners, or the public can not be approved.

d. Training Area Requests (see Appendix E) will include:

(1) Training area(s), range(s), and/or service(s).

(2) Date(s) and time(s).

(3) Requesting/using unit(s).

(4) Activity.

(a) Scope or type of training.

(b) Weapons and ordnance to be fired (if applicable).

(c) Altitude (if applicable).

(d) Observation post(s) (if applicable).

(e) Name(s) and phone(s) of OIC.

(f) Name(s) and phone(s)

(g) Any amplifying information (i.e., closure of highways, intracoastal waterway, number of troops, etc.).

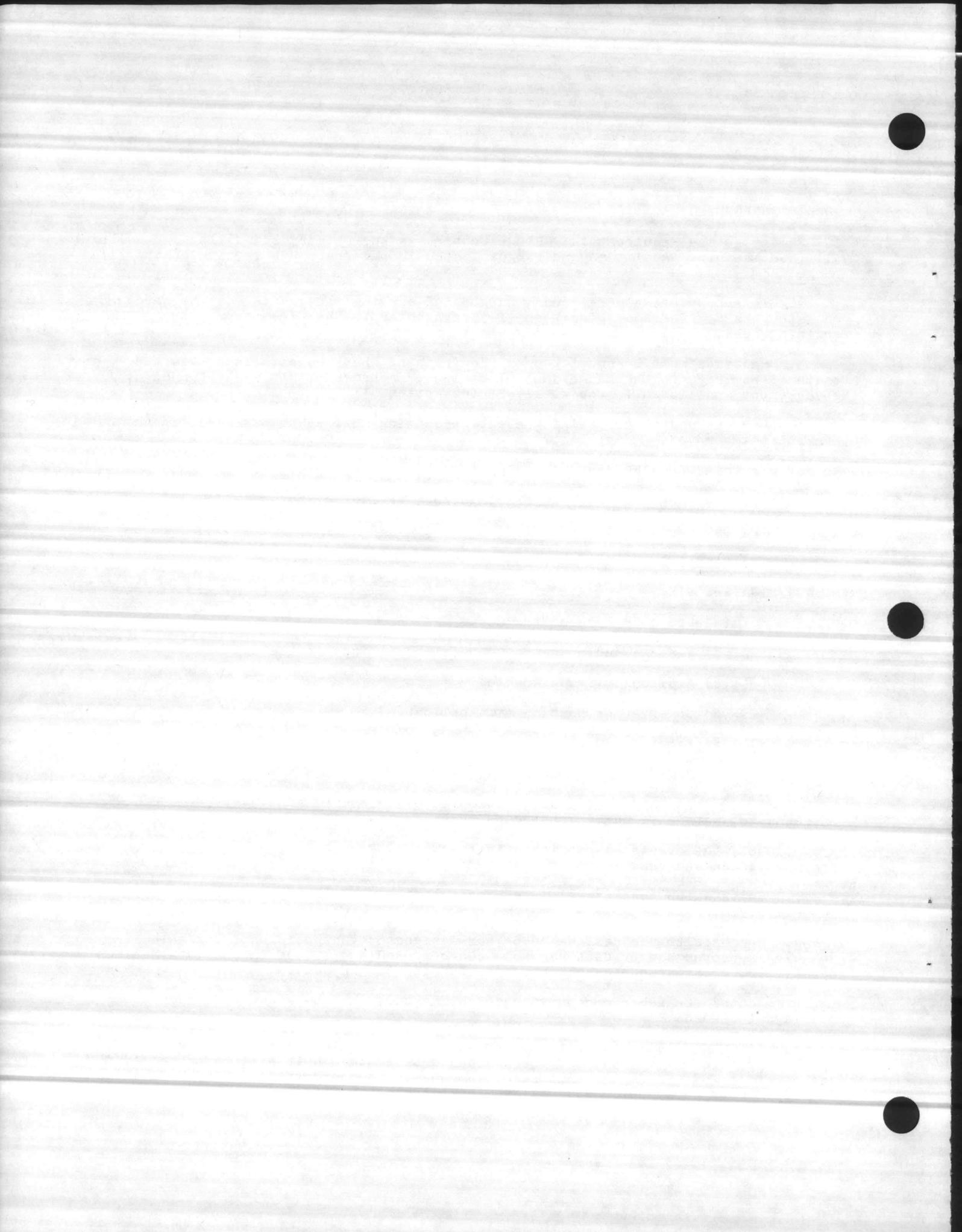
e. Only the events as published in the Weekly Firing Notice are allowed on the training areas and ranges.

f. Units which must cancel scheduled training will notify Range Control immediately.

g. Requests to use designated or non-designated gun positions, for which standard/approved safety data has not been computed and listed in the 10th Marines Safety SOP, must include overlays of the surface danger zone.

h. Routes for vehicle convoys and foot marches must be requested and route overlays included.

i. If a unit fails to arrive on a range which requires a range control operator within one (1) hour of the scheduled time, that unit will be cancelled for the remainder of the day on that specific range. An hour extension may be granted in response to telephonic requests from unit training officers.



j. In order to accommodate the high volume of training conducted by MCB tenant organizations, ranges may be utilized by more than one unit if the following conditions are met:

(1) The Commanding Officer of the host unit (the unit which originally scheduled the range) agrees to the proposed piggybacking.

(2) Coordination is made by piggybacking unit with the host unit.

(3) Range Control is made aware of additional units by the host unit at least 48 hours prior to actual firing time.

(4) Use by the piggybacking unit of any additional weapons system and/or ammunition not on the original TAR submitted by the host unit will be requested by the host unit only.

(5) Firing time will remain the same as host unit's original TAR, any changes will be made by the Base Range Control Officer or Range Control Duty Officer only.

(6) The OIC and RSO of the host unit will be solely responsible for safety, firing, and clean-up of ranges for all units firing.

2. Priority Assignments

a. Assignments of ranges on a priority use basis, does not preclude the necessity of submitting a training area request to Range Control and adhering to this SOP. The training units, or commands, who are principal users and therefore are granted priority assignments are:

- (1) Range A-1 is assigned to Marine Corps Service Support Schools.
- (2) Range D-6 is assigned to 2d Marine Division, 2d LAV Battalion.
- (3) Range D-9 is assigned to Base Special Services.
- (4) Range G-4 is assigned to 2d Marine Division, 2d Engineer Battalion.
- (5) Ranges G-4A "Duck Pond" and K-326, "Verona Loop" are assigned to EOD units of MCB, 2d FSSG, and MAG-21 for disposal of ammunition, disassembly/inerting of ammunition, and EOD related training.
- (6) Ranges I-1 and I-2 are assigned to Marine Corps Engineer School.
- (7) Range B-14 is assigned to Infantry Training School.
- (8) The QB area contained within Lyman Road, Highway 172 and the G-10 Impact Area boundary is assigned to 2d Marine Division, Division Schools.
- (9) Range D11A (GS 8736 and 8737 north of Main Service Road) is assigned to 2d Tank Battalion.

b. Units assigned to these ranges are responsible for the state of police and maintenance (e.g., grass/weed cutting, fence painting, etc.) and may not pass the scheduling assignment to another unit without the approval of the RCO. Range Maintenance section will provide equipment support on an available basis.

c. Assignment of a training area does not include landing zones (LZ), drop zones (DZ), live fire ranges, nor other training facilities located within its borders. Units must request these separately.

d. Major commands (2d Division/FSSG/MAB/MAU) will prioritize competing TARs internally for their subordinate units, advising Range Control by endorsement as to approval/disapproval or priority of assignment to training facilities.

e. Assignment of training ranges, areas, services, or facilities will be based upon the following priorities:

- (1) Major joint or combined arms exercises.
- (2) MAU amphibious work up.
- (3) MCCRES evaluations.
- (4) Marine Corps formal school training.
- (5) Special training directed by higher headquarters.
- (6) R.D.T. and E activities.
- (7) Unit training.
- (8) Sports and recreational activities.

3. Tactical Landing Zones (TLZ) and Parachute Zones (DMZ)

a. TARs for TLZs or DZs are required as outlined in paragraph 2000.1.

b. Use of TLZs by helicopter units is permitted without formal scheduling, provided the TLZ has not been reserved for other training and permission has been given by the RCO or RCDO.

c. DZs outside the airspace delegated to GC, MCB, Camp Lejeune (R5306 D&E), but within the boundary of the base may be utilized through prior coordination (14 days) with Range Control (e.g., DZs Condor, Eagle, Parrot). DZs within the airspace assigned to MCB require routine scheduling.

4. Administrative Landing Zones (ALZ)

a. TARs for ALZs must be submitted through the appropriate area commander for concurring endorsement prior to scheduling by Range Control.

b. ALZs are not intended for routine training use. Vehicles and other heavy equipment must be moved so as not to tear up the ground cover or leave ruts/holes in the ALZ.

c. ALZ 4 is restricted to all aircraft from 0745 to 0815 daily.

d. ALZ 4 and 10 are restricted to VIP and admin purpose only. Any use requires the expressed permission of the AC/S, Trng and Ops.

2001. POLICE OF TRAINING AREAS AND RANGES

1. Using Unit Responsibility

a. Police of training areas and ranges is the responsibility of the using units. Trash pick-up points are located throughout Marine Corps Base. Before securing from a training area or range, each unit will police thoroughly and remove their trash to one of these pick-up points. The OIC will contact the RCDO (extension 3064) to notify him this has been completed. The RCDO will instruct the using unit to have a SNCO or officer standing by to meet an inspector from Range Control. If an inspector is unavailable, a time will be arranged when he can meet with the unit representative as soon thereafter as possible. At no time will metal or lumber be placed in the dempster dumpster but will be taken to the base land-fill. Ordnance items (i.e., boxes, powder, fiber containers, etc.) must be returned to the ammunition dump.

b. The last using unit will be held accountable for the state of police. If, upon arriving at a range or training facility, the area is in an unsatisfactory state of police, immediately report the discrepancy to Range Control (or the RCDO) so corrective action may be promptly initiated. Units failing to report are presumed to accept responsibility for corrective action.

2. Supplemental Range Control Police Details

a. With the concurrence of the CG's 2d Marine Division and 2d Force Service Support Group, a supplemental police and range maintenance program has been established to operate on a continuing basis. The police detail will consist of:

(1) Three (3) corporals/lance corporals qualified as prisoner chasers, provided by CG, 2d MarDiv.

(2) One (1) 6x6 cargo truck and vehicle operator provided by CG, 2d MarDiv.

(3) One (1) dump truck and vehicle operator provided by CG, 2d FSSG.

(4) One (1) sergeant (NCOIC) provided by 2d FSSG.

(5) Fifteen (15) prisoners for the detail provided by MCB Brig.

b. The NCOIC, prisoner chasers, and drivers with their vehicles will report daily Monday through Thursday to the range maintenance officer by 0700 at building 1410 (extension 5211/3542).

c. The NCOIC will receive his assignment and then take his detail to the MCB Brig to pickup the prisoners.

d. The NCOIC will report to the range maintenance officer by 1600 each day after returning the prisoners.

e. A semiannual police of all training areas and ranges will be coordinated by the RCO with all major commands participating (usually June and December). A separate Base Bulletin will announce the details.

3. Range Inspections and Discrepancy Reports

a. Inspectors from Range Control will conduct random patrols to verify strict adherence to safety regulations, ensure proper police, note required maintenance, and report all violations to the RCO.

b. Unit commanders and their representatives are encouraged to report discrepancies in the safe use, police, and maintenance of all training areas and ranges to the RCO (See Appendix G).

4. Damage, Loss or Theft of Range Equipment or Facilities

a. The last unit using a range, training area, or equipment will make restitution for any damage, loss or theft. The OIC will be held responsible.

b. Arrangements for restitution must be coordinated with and approved by Range Control.

2002. RESTRICTED AREAS

1. Restricted Training Areas. Training areas CA, CB, DA, that portion of DC south of Main Service Road and west of north-south (N-S) gridline 87, and the FAD area in grid square (GS) 8742 and 8743 are not available to training. The Brewster Scouting area is described in the current edition of BO 5760.29.

2. Inactive or Hazardous Waste Site (Chemical Dump). An inactive site for the disposal of contaminants and hazardous waste is located in grid squares 7728 and 7828 (see Camp Lejeune Special Map). This site is commonly referred to as a "Chemical Dump" and is marked with appropriate warning signs.

3. Exclusion and Limited Areas. Building SH-8 and magazines SHE-12 and SHE-13 are designed Exclusion Areas and the Fenced areas surrounding them are Limited Areas.

4. Administrative Areas. Training is not permitted in an administrative area, except in specific training facilities such as D-9, D-29, D-30 small arms ranges and the area 5 training pool.

5. Onslow Beach. The beach is the primary site for amphibious training at Camp Lejeune. When not in use, the central portion is open for recreational purposes. Authorization for training on the beach requires two weeks advance approval.

a. Access to beach and unimproved road by 4 wheel drive, licensed or military vehicles only.

b. Access to beach via Riseley Pier and other well defined, natural routes.

c. No traffic/equipment on paths between/behind dunes.

d. Engineer work (obstacles, bridging, etc.) only on approval of Range Control.

6. Prohibited Areas

a. High Explosive Impact Areas.

(1) EOD Range G-4A, G-10 Impact Area, K-2 Impact Area, EOD Range K-326, and N-1 Impact Area (Browns Island Target and Bombing Area, BT-3) can be entered by EOD personnel with the permission of the RCO. Entry by other personnel upon approval of AC/S, Training and Operations and normally with EOD escort.

(2) Impact Areas are shown on the Camp Lejeune special map and defined as follows (this order takes precedence over the map overprinted data):

(a) G-10 Impact Areas. That area bounded by GC 89473719 to 92733685 to 95123695 to 95003360 to 93503372 to 90103250 to 89923433 to 88743645 to starting point.

(b) N-1 Impact Areas. That area from Onslow North Tower at the beach line to GC 94253149 to 97163405 to 97793377 the south along Bear Creek to Bear Creek Inlet and southwest along the Base boundary on the beach line to starting point at Onslow North Tower.

(c) BT-3 (Bombing and Target Range). That area bounded by GC 98283362 to 99283362 to 99203251 to 00523391 to 06542409 to 93251771 to Onslow North Tower to starting point. Aircraft delivered ordnance into N-1/BT-3 will impact on Brown's Island only.

(d) K-2 Impact Area. That area bounded by GC 78703552 to 81703552 to 82113490 then south and west along the New River shoreline to 77503341 to starting point.

(3) Dud Hazard Ranges are listed in Appendix B and the "What Can I Shoot Where?" matrix, Appendix I. No personnel or training are allowed on the down range area of these ranges unless approved by RCO and escorted by EOD personnel. Surface danger zones and impact areas are depicted on the Camp Lejeune special map, Appendix K.

b. Live Minefield Site: GC 936310 to 838306 to 943309 to 943313 can only be entered with RCO's approval and EOD escort. See current edition of BO 8092.1B for additional information and requirements.

7. Surface Danger Zones (SDZ)

a. The SDZ (safety fan) is that segment of a range area endangered by a particular type of weapon firing and consists of those areas depicted in Figure 2-1 and 2-2. Entry into these areas is prohibited during firing. The SDZ as depicted on the Camp Lejeune special map (Appendix K) and described in Appendix B to this order, along with special instructions, are the minimum requirements. They are adequate only when employed with properly functioning safety equipment and devices, and when trained and competent personnel follow firing procedures.

b. Common Impact Areas

(1) The surface danger zone of many ranges overlap, creating a common impact area, such as the F-Range and K-Range complexes.

(2) Care must be exercised, particularly when other ranges sharing common impact areas are being used, to insure that the area is safe before firing or moving down range. (See Appendix B)

2003. ENVIRONMENTAL PRECAUTIONS

1. Waste Water Disposal. The following methods are required for the disposal of waste water:

a. Waste water from field mess operations will require a drainage trench located on adequately drained soils. Wet garbage from field mess must be transported in covered GI cans to the nearest mess hall. For details contact Base Food Service Officer, extension 2716.

b. Field showers are authorized, if located on adequately drained soils, at least 150 feet from streams or other surface waters and at least 500 feet from a drinking water well. Locations not meeting these requirements require prior approval of the Range Control Officer. Technical assistance required to determine compliance with above requirements is available from NREAD, MCB, extensions 5003 or 2083.

2. Sanitary Waste

a. Human waste will be disposed by the use of port-a-johns located throughout the training areas. Units will not construct field head facilities. Individual "cat-holes" are permissible.

b. To obtain port-a-johns, submit a DD Form 1149 to Assistant Chief of Staff, Logistics, MCB (extension 5813/5095). Range Control will provide guidance on the general locations permissible.

3. Spill Prevention, Containment and Clean-Up. (See current edition of BO 11090.1)

a. Prevention of oil and hazardous material spills and the resulting environmental damage is the responsibility of all commanders. Tactical fuel farm locations must be approved by the RCO at least 24 hours in advance. The RCO will inform Base Fire Department of proposed locations.

b. Hoses, nozzles and connections will be checked frequently to avoid leakage of fuel.

c. Refueler operators will stay with the vehicle during refueling operations.

d. Tanker vehicles will be parked in such a manner as to avoid the possibility of spilled fuel entering natural or man-made drainage systems.

e. In the event of a spill (more than one gallon):

(1) Contact "BLACKBURN" (38.60 (old squelch) FM, 325.0 UHF, extension 3064) or call the Base Fire Department (extension 3333).

(2) Persons on-site shall attempt to erect a sand or earth dam around the perimeter of the spill.

(3) Keep unauthorized personnel out of the area.

(4) Provide personnel and equipment support for spill containment.

(5) Cleanup will be accomplished by personnel from unit having the spill.

(6) Senior Base Fire Department representative will act as on-scene coordinator. OIC of the unit having spill will immediately notify on-scene coordinator of what manpower and equipment are available for use in containing and cleaning up spill. On-scene coordinator will request additional resources from Base Maintenance Officer and other sources per current edition of BO 11090.1.

4. Field Vehicle Servicing and Equipment Maintenance

a. All waste POL's and hazardous materials will be managed in accordance with the current editions of BO 11090.1 and BO 6240.5. Questions regarding this matter should be forwarded to the unit's Hazardous Material Disposal Coordinator per current edition of BO 6240.5.

b. The following guidelines will be followed:

(1) Used POL's will be collected in "drip pans" and stored in 55-gallon drums which are clearly labeled with words "Waste Oil."

(2) Waste solvents and degreasers will be collected in 55-gallon drums which are painted yellow and are clearly labeled with the words "Hazardous Wastes."

(3) Whenever possible, waste will be transported back to using unit's garrison facilities and stored until disposal is accomplished per BO 6240.5 or BO 11090.1B."

c. Abandonment or dumping of used POL's or hazardous materials are serious violations of state and federal regulations outlined in the current editions of BO 6240.5 and BO 11090.1B. Violators may be personally liable for both civil and criminal penalties. Spills will be promptly reported to the Base Fire Department (3333).

5. Protection of Wetlands

a. The operation of earth moving equipment within wetlands shall be avoided.

b. Spill of any material or liquid in wetlands regardless of quantity will be reported immediately to the Natural Resources and Environmental Affairs Division, extension 5003.

6. Archaeological and Historical Sites

a. Protected Longleaf Pine (HB area) and Wallace Creek (FA area) Natural Areas
These areas are to be used only for non-vehicular training, except for existing trails, in order to preserve unique natural resources. For clarification of training operation impacts adjacent to these areas, contact AC/S, Facilities, extension 3034.

b. Jarrett's Point Training Area

(1) Jarrett's Point, located in the JC training area (GC 8129 and 8128) is used predominately by the 2d Assault Amphibian Battalion for driver training, the MCES, and MCAS New River for external lift training.

(2) Portions of this area are designated archaeological sites. Training will be restricted as follows:

(a) No troop training south of line GC 810296 to 820296. It is marked by signs indicating a restricted area.

(b) Helicopter operations conducting external lifts using HST units may be conducted south of the line. Ingress and egress to this area is restricted to foot and wheeled traffic on existing trails.

(c) Road grading and any other engineering training which will disturb the soil is prohibited without written consent of MCB, AC/S, Trng and Ops.

7. The Atlantic Loggerhead and Green Sea Turtles. These threatened species periodically come ashore onto any of the beaches at Camp Lejeune; particularly during nesting season, May - October (see current edition of BO 11015.7).

a. During this nesting season, the only authorized beach training area is along the Atlantic Ocean from the sand dunes seaward between Risely Pier (GC 903262) and the tank trail south of Onslow South Tower (GC 878245).

b. Nests within this operating/training area will be relocated to other safe areas by Natural Resources and Environmental Affairs Division (NREAD) personnel only. Any unmarked or protected nests will be reported to Range Control for further reporting to NREAD.

c. Disturbance of the turtles, their nests, or eggs is prohibited.

d. Egress from the beach to the road behind the sand dunes will be at designated egress points/routes. Vehicular traffic is prohibited on the dunes.

e. Tank trap and causeway construction must be authorized by this headquarters (AC/S, Trng & Ops).

8. Red-Cockaded Woodpecker. The Red-Cockaded Woodpecker which is found at Camp Lejeune was listed as an endangered species in 1970. The Red-Cockaded Woodpecker forages, roosts, and nests in older cavity trees in the pine forests. Marine Corps Base has implemented a program designed to protect the Red-Cockaded Woodpecker and its habitat, as required by federal law. The focus of the program is to protect the trees, root system, soils and surrounding habitat of the woodpecker. The BUFFER ZONES where the woodpecker colonies are located are marked with two bands of white paint. The CONTIGUOUS HABITAT which contains support stands are marked with one band of white paint and is identified as follows: "Restricted Area Endangered Species Site." While training within a marked area is not of itself a prohibited activity, care must be taken to insure protection of the habitat. The actions listed below are authorized and will insure minimum impact to support stands and prevent a violation of Public Law 93-205, Endangered Species Act of 1973.

a. Within the contiguous habitats of the red-cockaded woodpecker (marked by one white stripe painted on trees with signs stating "Restricted Area Endangered Species" and within the red-cockaded woodpecker colony buffer zone (marked by two white stripes painted on trees and signs depicting a woodpecker and stating "Endangered Species Buffer Zone."

AUTHORIZED ACTIVITIES

- (1) Movement/introduction of wheeled vehicles.
- (2) Use of tracked vehicles on existing/designated trails.
- (3) Blank small arms firing.

b. Weekly inspections will be conducted under the cognizance of the Base Training Facilities Officer and supported by a NREAD representative to determine if violations have occurred and, if so, to report them to the Assistant Chief of Staff, Training and Operations.

c. Commanders will conduct a continuous education/information program to ensure all personnel are aware of the contents of BO 11015.6A.

9. Violations. Violations of this Order that are observed or noted should be reported to Assistant Chief of Staff, Training and Operations, Marine Corps Base. In accordance with section II of MCO 11015.4, such violations are prosecutable under Article 92, Uniform Code of Military Justice, and reports of the violations will be forwarded to the appropriate commanding officer for disposition.

10. Environmental Documentation. In accordance with the current edition of BO 11000.1, preparation of preliminary environmental assessments (PEAs) are required for "major military training exercises with potential for environmental impacts." PEAs are not required for routine, recurrent training conducted in accordance with the Range SOP. For major exercises (MAB size or greater), an environmental assessment (EA) may be required. Contact AC/S, Facilities, extension 3034 for clarification.

2004. SPECIAL CONSIDERATIONS

1. Tracked Vehicles. In addition to previously discussed environmental concerns, the following rules apply to tracked vehicles:

a. Tracked vehicles will cross railroad tracks and hard surface roads only at designated crossings (tank pads).

b. During tactical operations tracked vehicles may cross elsewhere on the hard surface road only when a safe crossing can be assured and no damage to the road will result. Units will use road guard(s) to stop traffic in both directions. Once the crossing is made the unit will clean any debris left on the road (e.g., dirt, mud) to prevent hazards to traffic. Dunnage should be used to reduce road damage.

c. All tracked vehicles will call the RCDO (BLACKBURN, 38.60 FM (old squelch)), before departing their tank/tractor ramp or any range/TA and request permission to transit the TA's/MA's informing BLACKBURN of their route. This applies to road tests and all administrative movements. This is not applicable during an actual exercise, i.e., Solid Shield, MCCRES, etc.

d. Tracked vehicle prohibited areas extend outward 50 meters from the water edge of managed fresh water fish ponds. When entering these areas, tracked vehicles are restricted to the use of designated tank trails and roads. Every effort will be made to minimize ecological damage to areas traversed by mechanized vehicles.

2. Civil Disturbance/Anti-Terrorism

a. This special training will be conducted in designated training area and combat town whenever possible. To achieve realism, certain portions of administrative areas may be requested; however, these areas will not normally be scheduled during working hours.

b. Requests to use administrative areas will be submitted by letter to arrive this Headquarters (Attn: AC/S Trng & Ops) at least two weeks prior to the date requested. Requests will go via the chain of command, to include the appropriate area commander for concurrence/non-concurrence. In addition, the request will include:

- (1) Date(s) and time(s) to include rehearsals.
- (2) Special equipment, vehicles and ammunition.
- (3) Sketch of specific area desired, including building numbers, streets and boundaries.
- (4) Purpose of the exercise (training, demonstration, security, etc.).
- (5) Amplifying information (i.e., blocking of streets, marking the area, use of MP's).
- (6) The following regulations apply:
 - (a) The use of smoke will be confined to streets with special precautions to ensure smoke grenades are not placed against buildings.
 - (b) Grappling hooks and similar equipment are prohibited.
 - (c) The area will be marked and posted to ensure the safety of unsuspecting personnel.
 - (d) A minimal amount of blank ammunition or machine gun simulators may be used to simulate sniper/enemy fire.
 - (e) Training will be limited to street level; access to buildings or rooftops is prohibited.
 - (f) Training will not interfere with the normal operations within the area. Access may be controlled but not denied to commercial freight carriers. Specifically prohibited is the practice of treating unsuspecting personnel as a part of the exercise to achieve realism.
 - (g) Holcomb Boulevard, Sneads Ferry Road, Main Service Road and other main arteries of traffic will not be used.

(h) Training will not be scheduled during rush hour or peak hours at public facilities (i.e., commissary, exchange, service station).

DISK-7 SOP (end) →

DISK-4 begins SOP ←

starts at beginning of page also

players, actors, aggressors will NOT imitate or disguise identity or range control personnel/vehicles. Therefore, these will not be restricted from free access to all areas (consistent with policy of classified material).

Exercises. Requests for combined air/ground exercises, Joint Conference (JCOC), Reserve Landing Exercises (RESLEX) and other exercises will be submitted to the RCO by the senior commandant of command, as a consolidated package using either a TAR (Appendix A) or both, as necessary. Requests must be received thirty (30) days in advance of the beginning of training.

4. Closure of the Atlantic Intracoastal Waterway (AIWW) & Highways

a. Request for the closure of the AIWW other than routine use of Ranges G-5, G-6, G-7 and N-1/BT-3 Impact Area, will be submitted by letter to this Headquarters (Attn: AC/S, Trng & Ops) as follows:

(1) Closure of less than twelve (12) hours must be received thirty (30) days in advance.

(2) Closure in excess of 12 hours must be received ninety (90) days in advance.

b. Closure of Highway 172 and/or other roads at MCB Camp Lejeune for training will be submitted by letter (Attn: AC/S Trng & Ops) by 1600 Monday, 14 days prior to the first day of the training week. See Appendix B for specific range/weapons requirements. For routine closure of Highway 172 for range G-6, or Lyman Road for TOW shoots from range G-3, unless otherwise indicated on the TAR, range control will publish the closure message to correspond to firing times.

5. Recreational Use of Training Areas/Facilities

a. Training pools are available for recreational use, subject to training requirements. Requests for Area 5 Pool will be submitted to the RCO, all others will be submitted to the appropriate area commander.

b. Requests for recreational firing will be submitted to the AC/S Trng & Ops at least fourteen (14) days in advance setting forth the following minimum data:

- (1) Grade and Name of OIC of firing.
- (2) Date(s) and time(s) of actual firing.
- (3) Range desired (F-11 handguns and .22 cal rifles; F-12 high power rifles)
- (4) Estimated number of personnel firing.
- (5) Type and number of weapons and ordnance to be fired.
- (6) Means of communications to be used.

(7) Certification that OIC knows and will follow all safety requirements specified in this order and applicable regulations.

6. Observation of Training by Civilians and Military Dependents. Requests for authorization for civilians or military dependents to observe training aboard MCB, Camp Lejeune will be submitted via the chain of command to AC/S Trng & Ops fourteen (14) days in advance with the following information:

- a. Scope of training (ordnance to be fired).
- b. Date(s) and time(s).

b. During tactical operations tracked vehicles may cross elsewhere on the hard surface road only when a safe crossing can be assured and no damage to the road will result. Units will use road guard(s) to stop traffic in both directions. Once the crossing is made the unit will clean any debris left on the road (e.g., dirt, mud) to prevent hazards to traffic. Dunnage should be used to reduce road damage.

c. All tracked vehicles will call the RCDO (BLACKBURN, 38.60 FM (old squelch)), before departing their tank/tractor ramp or any range/TA and request permission to transit the TA's/MA's informing BLACKBURN of their route. This applies to road tests and all administrative movements. This is not applicable during an actual exercise, i.e., Solid Shield, MCCRES, etc.

d. Tracked vehicle prohibited areas extend outward 50 meters from the water edge of managed fresh water fish ponds. When entering these areas, tracked vehicles are restricted to the use of designated tank trails and roads. Every effort will be made to minimize ecological damage to areas traversed by mechanized vehicles.

2. Civil Disturbance/Anti-Terrorism

a. This special training will be conducted in designated training area and combat town whenever possible. To achieve realism, certain portions of administrative areas may be requested; however, these areas will not normally be scheduled during working hours.

b. Requests to use administrative areas will be submitted by letter to arrive this Headquarters (Attn: AC/S Trng & Ops) at least two weeks prior to the date requested. Requests will go via the chain of command, to include the appropriate area commander for concurrence/non-concurrence. In addition, the request will include:

- (1) Date(s) and time(s) to include rehearsals.
- (2) Special equipment, vehicles and ammunition.
- (3) Sketch of specific area desired, including building numbers, streets and boundaries.
- (4) Purpose of the exercise (training, demonstration, security, etc.).
- (5) Amplifying information (i.e., blocking of streets, marking the area, use of MP's).
- (6) The following regulations apply:
 - (a) The use of smoke will be confined to streets with special precautions to ensure smoke grenades are not placed against buildings.
 - (b) Grappling hooks and similar equipment are prohibited.
 - (c) The area will be marked and posted to ensure the safety of unsuspecting personnel.
 - (d) A minimal amount of blank ammunition or machine gun simulators may be used to simulate sniper/enemy fire.
 - (e) Training will be limited to street level; access to buildings or rooftops is prohibited.
 - (f) Training will not interfere with the normal operations within the area. Access may be controlled but not denied to commercial freight carriers. Specifically prohibited is the practice of treating unsuspecting personnel as a part of the exercise to achieve realism.
 - (g) Holcomb Boulevard, Sneads Ferry Road, Main Service Road and other main arteries of traffic will not be used.

(h) Training will not be scheduled during rush hour or peak hours at public facilities (i.e., commissary, exchange, service station).

(i) Role players, actors, aggressors will NOT imitate or disguise themselves as emergency or range control personnel/vehicles. Therefore, these personnel/vehicles will not be restricted from free access to all areas (consistent with actual security of classified material).

3. Special Training Exercises. Requests for combined air/ground exercises, Joint Civilian Orientation Conference (JCOC), Reserve Landing Exercises (RESLEX) and other large scale training exercises will be submitted to the RCO by the senior command involved, via chain of command, as a consolidated package using either a TAR (Appendix E), a letter request or both, as necessary. Requests must be received thirty (30) days prior to the beginning of training.

4. Closure of the Atlantic Intracoastal Waterway (AIWW) & Highways

a. Request for the closure of the AIWW other than routine use of Ranges G-5, G-6, G-7 and N-1/BT-3 Impact Area, will be submitted by letter to this Headquarters (Attn: AC/S, Trng & Ops) as follows:

(1) Closure of less than twelve (12) hours must be received thirty (30) days in advance.

(2) Closure in excess of 12 hours must be received ninety (90) days in advance.

b. Closure of Highway 172 and/or other roads at MCB Camp Lejeune for training will be submitted by letter (Attn: AC/S Trng & Ops) by 1600 Monday, 14 days prior to the first day of the training week. See Appendix B for specific range/weapons requirements. For routine closure of Highway 172 for range G-6, or Lyman Road for TOW shoots from range G-3, unless otherwise indicated on the TAR, range control will publish the closure message to correspond to firing times.

5. Recreational Use of Training Areas/Facilities

a. Training pools are available for recreational use, subject to training requirements. Requests for Area 5 Pool will be submitted to the RCO, all others will be submitted to the appropriate area commander.

b. Requests for recreational firing will be submitted to the AC/S Trng & Ops at least fourteen (14) days in advance setting forth the following minimum data:

- (1) Grade and Name of OIC of firing.
- (2) Date(s) and time(s) of actual firing.
- (3) Range desired (F-11 handguns and .22 cal rifles; F-12 high power rifles)
- (4) Estimated number of personnel firing.
- (5) Type and number of weapons and ordnance to be fired.
- (6) Means of communications to be used.

(7) Certification that OIC knows and will follow all safety requirements specified in this order and applicable regulations.

6. Observation of Training by Civilians and Military Dependents. Requests for authorization for civilians or military dependents to observe training aboard MCB, Camp Lejeune will be submitted via the chain of command to AC/S Trng & Ops fourteen (14) days in advance with the following information:

- a. Scope of training (ordnance to be fired).
- b. Date(s) and time(s).

- c. Location(s)/training area(s).
- d. Safety and control measures to be taken.
- e. Number of personnel expected.
- f. Certification that a release of liability for each will be (has been) obtained.

7. Special Instructions

a. The use of any training area, range or service not described in this SOP must arrive at this headquarters by letter (Attn: AC/S, Trng & Ops) by 1600, Monday, 14 days prior to the first day of the training week.

b. Combat Town

(1) Request for the use of combat town must be received at least 24 hours prior to the unit entering the area.

(2) The Range Safety Officer (RSO) will check out the facility at building 1404 and be knowledgeable of the current edition of BO 11015.6.

(3) See Appendix F for special regulations for combat town.

c. Use of Laser Rangefinder-Designators. All laser-type equipment will be used in accordance with reference (a), Chapter 19. Fifteen days advance coordination with the RCO is recommended to determine specific systems/target areas certified and available, and unique safety requirements. See paragraph 4016, below.

d. Requesting procedures for Marine Corps Auxilary Landing Field (MCALF), Bogue, and Outlying Fields Atlantic, Camp Davis, and Oak Grove.

(1) Outlying Fields Atlantic, Camp Davis, Oak Grove as well as MCALF, Bogue are training facilities under the command of Marine Corps Air Bases, Eastern Area (COMCABEAST). They are primarily for use by elements of the 2d Marine Aircraft Wing (2d MAW). However, other commands/services may use these facilities on a not-to-interfere basis.

(2) All organizations requesting to train at any of these facilities must provide the following information to Assistant Chief of Staff, Training and Operations, Marine Corps Base, Camp Lejeune.

- (a) Name of unit
- (b) Requested dates of training.
- (c) Number of personnel.
- (d) Number and type of aircraft/equipment.
- (e) Type of training to be conducted.
- (f) Proposed hours of operation.

(3) Scheduling requests for Bogue Field, Oak Grove, Atlantic Field and Camp Davis will submitted to Commanding Officer, Marine Corps Bases East, Cherry Point, N.C., Attn: Director of Operations. Requests will be submitted via AC/S Training and Operations, Marine Corps Base, Camp Lejeune, NLT 30 days prior to scheduled dates. Limited ground training is permitted in the designated areas under strict conditions.

e. National Forest

(1) The CG, MCB has the delegated authority to execute an agreement with the Forestry Service when other training areas are determined to be inadequate.

(2) Requests must be submitted by letter (Attn: AC/S, Trng & Ops) to this headquarters at least forty-five days prior to commencement of training. See Figure 2-3 for format.

(3) The using commander will meet with the Forest Supervisor's designated liaison officer one week prior at or near the site of planned occupancy, and be prepared to post signs in the immediate vicinity of the exercise area to caution the public of the use of roads by military vehicles.

(4) All special instructions received from the FLO (Forest Liaison Officer) and range regulations of this SOP will apply to National Forests.

f. Engineer Training. Units anticipating use of engineer assets will include this in the TAR and describe the type of training to be used, i.e., obstacles, emplacements, tank cribs/traps, wire barriers, materials to be used, etc.

(1) Any training accomplished will be done with the understanding that all areas affected will be returned to the "original state." Additional guidance from Range Control may be obtained at any time/on site by advance coordination.

(2) All environmental restrictions will be in effect. There will be no heavy equipment vehicles or obstacles placed in restricted areas, hard surface roads, roads with gravel/marl as part of surface, or within 50 feet of a culvert.

(3) All repairs will be done within 24 to 72 hours after exercise is complete. This is to ensure availability/accessability for next unit. Extensions may be granted only by the Range Control Officer

(4) Unless specifically approved by the RCO, roads described above will not be blocked/made impassable due to the need for emergency vehicle access. Units may use "S" turns/curves and should simulate an impassable condition on these roads.

g. Tactical Wire. Units emplacing tactical wire will remove it, any posts/stakes, and repair the ground prior to securing from the area. Wire that will be in place during hours of darkness will be tagged with white tape/cloth to prevent inadvertent entry and injury to personnel.

2005. PRIVATELY OWNED VEHICLES (POVs)

1. POVs are prohibited in any tactical training or bivouac area, on any OP, GP, range, or impact area. POV's are prohibited from parking on roads traversing or providing access to these areas, except main roads and state roads that pass through the Base or lead to an authorized recreation site or parking area.

2. By special arrangement with Range Control, parking areas and permits can be designated. POVs may be operated and parked on ranges or along existing range roads/tank trails during hunting season in authorized areas. Hunting passes will be prominently displayed on dashboards in accordance with the current edition of BO 1710.20J. POVs may park at authorized boat launching sites specified in enclosure (1), paragraph 4, to the current edition of BO 1710.20 provided there are no range warning signs/flags/gates at the access point indicating closure for field firing.

3. The following ranges have designated parking areas that may be authorized for POVs by the OIC/RSO: B-12, D-6, D-9, D-29, D-30, G-4, G-4A, I-1, K-326.

4. With a Range Control parking pass, POVs may park on the gravel lots behind ranges F-3 and L-5 and the gravel lot adjacent to the Range Maintenance shop behind K-301. During recreational firing only, POVs are allowed to park at F-11. When F-5 is utilized by PMO, POVs may park on the first gravel road inside the range gates.

5. Violators are subject to administrative or disciplinary action, to include towing or traffic citations.

SURFACE DANGER ZONE

Surface danger zone. The segment of the range area which is endangered by a particular type of weapon firing and which consists of the following area:

(1) Dispersion pattern. The distribution of a series of rounds fired from one weapon or group of weapons under conditions as nearly identical as possible, the points, bursts, or impacts being dispersed about a point called the center of impact.

(2) Impact area. The primary danger area for indirect fire weapons that is established for the impact of all rounds. When applied to direct fire weapons, it is the area located between established range limits. The impact area is within the approved surface danger zone.

(3) Ricochet area. The area between the impact area and Area A (or Area G, when applicable) which parallels the line of fire and which is provided to contain ricochet projectiles.

(4) Area A. The area (secondary danger area) which parallels the impact area laterally and which is provided to contain fragments from items exploding or ricocheting on the right or left edge of the impact area.

(5) Area B. The area (secondary danger area) which is on the downrange side of the impact area and Area A. It is designed to contain fragments from items exploding on the far edge of the impact area.

(6) Area F. The area which is immediately to the rear of a weapon or group of weapons and which is endangered by the effects of the weapons being fired.

(7) Rear range. The area to the rear of the firing positions.

(8) Gun target line. An imaginary straight line drawn between the gun and the target.

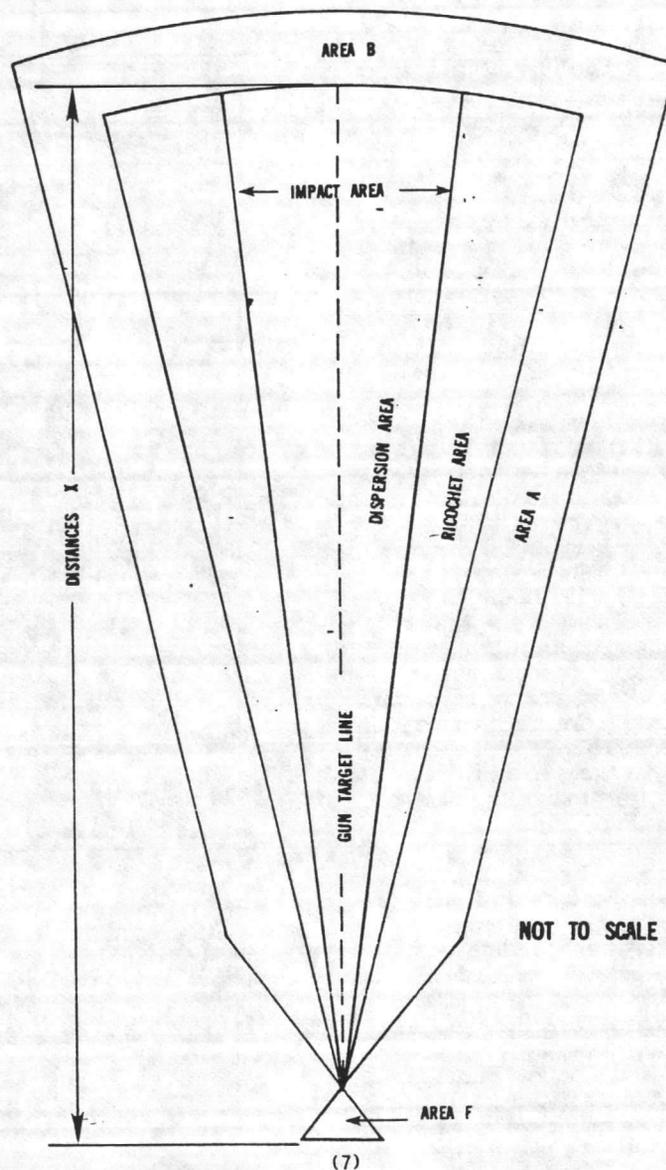


Figure 2-1.--Direct Fire Mode.

Surface danger zone. That segment of the range area which is endangered by a particular type of weapon firing and which consists of the following areas:

(1) Target area. The point or locations to which the weapon is to be fired. (For demolitions, the target area is the point or location at which the demolition charge is emplaced.)

(2) Impact area. The primary danger area for indirect fire weapons that is established for the impact of all rounds. When applied to direct fire weapons, it is the area located between established range limits. The impact area is within the approved surface danger zone.

(3) Probable error. Measure of the impact distribution in the dispersion pattern around the center of impact, dimensionally expressed in firing tables as one interval of the dispersion rectangle.

(4) Area A. The area (secondary danger area) which parallels the impact area laterally and which is provided to contain fragments from items exploding or ricocheting on the right or left edge of the impact area.

(5) Area B. The area (secondary danger area) which is on the downrange side of the impact area and Area A. It is designed to contain fragments from items exploding on the far edge of the impact area.

(6) Area C. The area (secondary danger area) which is on the uprange side of the impact area and parallel to Area B and which is intended to contain fragments from items exploding at the near edge of the impact area (also referred to as the short limit of the target area).

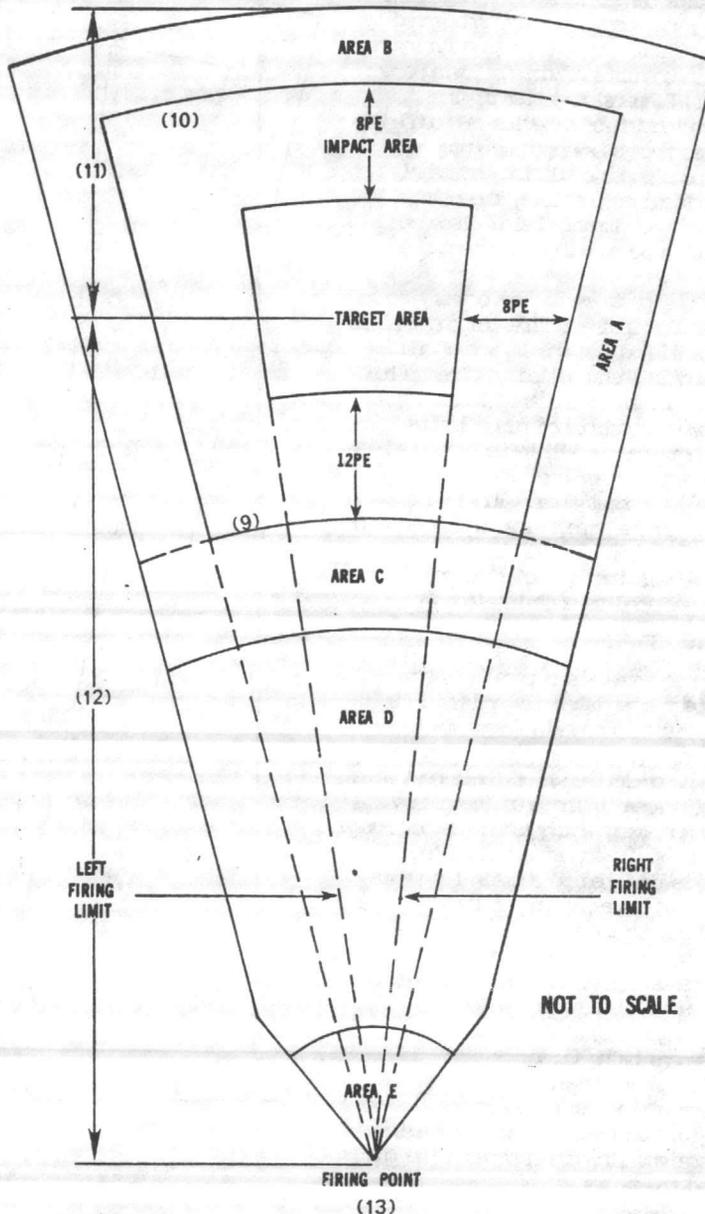
(7) Area D. The area which is between Area C and Area E and which is considered a safe area for troop occupation for training purposes.

(8) Area E. The area which is between Area D and the firing position and which is endangered by muzzle debris, overpressure, and injurious noise levels. Area E may be occupied only by weapon crews firing from an approved tactical configuration (circular, box, star, etc.).

(9) Near edge. The boundary of the impact area which borders Area C and is nearest to the firing position.

(10) Far edge. The boundary of the impact area which borders Area B and which is the farthest from the firing position.

SURFACE DANGER ZONE



(11) Downrange. All areas of the surface danger zone which are located beyond the target point or center of a target area for multiple targets.

(12) Uprange. All areas of the surface danger zone which are located between the firing position and the target point or center of a target area for multiple targets.

(13) Rear range. The area to the rear of the firing position.

Figure 2-2.--Indirect Fire Mode.

TRAINING REQUEST
FOR USE OF U. S. NATIONAL FOREST LAND

1. Unit Requesting Training _____
2. Date of Request _____
3. Date of Training _____
4. Description of Training _____

(Note: Attach map dated and referenced to specific request. Indicate boundary of area requested and special features such as Drop Zones, Command Post, Bivouac Areas, etc.)

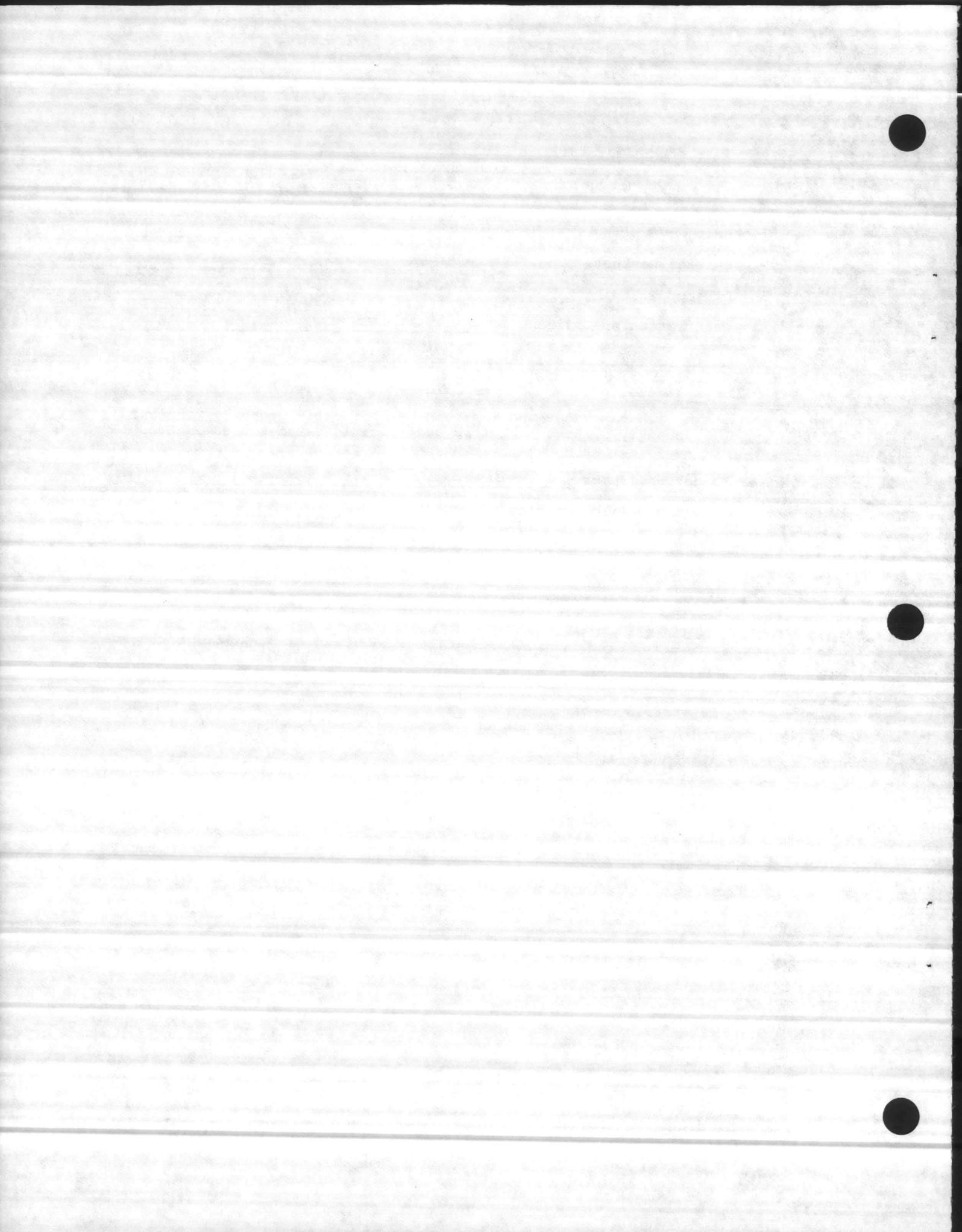
5. Number of Troops _____
6. Number and Size Vehicles/Equipment _____

7. Sanitation Facilities Provided _____
8. Field Liaison Contact _____
GRADE AND NAME TELEPHONE NO.

(Note: Individual Designated Unit POC During Training)

9. MCB Liaison Contact _____
GRADE AND NAME TELEPHONE NO.
10. POC for Billing Purposes _____
TITLE TELEPHONE NO.
11. Interservice Support Agreement (ISSA) NO. _____

Figure 2-3.--Training Request for Use of U.S. National Forest Land.



RANGE CONTROL OPERATIONS

CHAPTER 3

TRAINING SERVICES

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3000. RANGE FACILITY MANAGEMENT

1. To ensure organizations involved in range use and range activities have a role in range facility management, the base has established a Range Facility Management Committee. The overall goal of the committee is to ensure that the base has the ranges and training facilities it needs to conduct required training, that they are kept in good condition, and that the least amount of fleet and installation resources are used to operate and maintain them. (The current edition of BO 11102.2 provides amplifying information). To this end, Range Control has been organized and staffed to provide responsive range maintenance, services, and support.

2. Training Support Available

- a. Range Maintenance -- maintained and modification of.
- b. Base Gas Chamber -- NBC defense training.
- c. Explosive Ordnance Disposal.
- d. Navy Boat Crew.
- e. Range Services and Support.
 - (1) Target systems, materials, and operators.
 - (2) Simulators and demolitions.
 - (3) Training Pool.
- f. Wet-bulb globe temperature index reports.
- g. Destructive weather and fire danger advisory.
- h. Medevac assistance.

3001. MAINTENANCE OF LIVE FIRE RANGES

1. Range Maintenance consists of electrical, welding, carpentry, and paint shops designed to perform routine maintenance of training facilities on a regular basis including:

- a. Repair of gates, fences, signs and flagpoles.
- b. Limited first-echelon repair of buildings, structures, and towers.
- c. Maintenance of firing lines, berms, and firing pits.
- d. Clearance of brush and undergrowth.
- e. Repairs to target carriers, railways, and targets.
- f. First echelon repairs to training devices such as weapon simulators and pop-up targets.

2. Emergency maintenance of training facilities within the capabilities of Range Maintenance will be performed to preclude lost or ineffective training. Emergency requests may be phoned to the Range Maintenance Officer (extension 3542/5211) or the Range Control Duty Officer (extension 3064).

3. Routine maintenance requests will be submitted to Range Control by either letter or completion of the Range Discrepancy Report as part of range check-out/in procedures. These reports are the primary means by which minor maintenance requirements are identified and satisfied. Clear, detailed information from OIC's/RSO's is necessary.

4. Minor construction requests involving construction, alteration, repair or replacement of real property, facilities, or ranges will be submitted to the AC/S Trng & Ops along with detailed diagrams, cost or work estimates, location(s), and impact upon training or safety.
5. Major construction, projects, or range modifications should be submitted as above with the addition of a Preliminary Environmental Assessment (PEA). These requests will usually be handled by the Range Facility Management Committee through the budget or POM process. Therefore, units must exercise the greatest advance planning possible particularly concerning new weapons range requirements.
6. Some construction projects may be accomplished by troop training provided the criteria outlined in the current edition of MCO P11000.7 is met and approved by the Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune. Any modification to training facilities must be approved by this Headquarters.

3002. BASE GAS CHAMBER -- NBC DEFENSE TRAINING

1. The gas chamber facility is located off Sneads Ferry Road in building 935. The facility includes 3 classrooms, 2 NBC training ranges, indoor classroom and gas chamber. The NCOIC will assist units in both field and classroom training and is designated as the OIC for all training within the facility. Scheduling is done via standard TAR's, 14 days in advance to the NCOIC, Gas Chamber, Range Control.

2. Use of NBC agents. Unit TAR's will indicate intended use, specifying time, type and location.

a. The use of smoke, flame, CS and standard agent simulants is authorized for training purposes in unrestricted maneuver and training areas at the discretion of the unit commander and subject to the restrictions contained in these regulations. No other agents may be used.

b. Standard simulants and munitions available for training are:

- (1) Simulants Chemical Agent PEG 200
- (2) Training Set, Chemical Agent M72A1/M72A2
- (3) Blister Agent Simulant, Molasses Residium
- (4) Training Ammunition
- (5) Atomic Explosion Simulator, DVC 39-1
- (6) Atomic Simulator locally fabricated set (FM 30-101)
- (7) Artillery Simulator, M110

3. Specific instructions for NBC agents (NBC facility or approved training areas):

a. Classroom instructor will notify the Range NCOIC/Assistant NCOIC of the intent to use CS grenades in the outdoor classroom prior to their use. The wind direction will be checked by the NBC Range NCOIC/Assistant NCOIC before authorization is given for their use.

b. The same cover and safety limits used during training with high explosive ammunition are required for protection against ricochets of chemical ammunition.

c. Chemical agents will be employed only with the advice of a school-trained NBC officer or SNCO trained in the field behavior, individual protective equipment, and first-aid requirements of such agents.

d. Troops will not be exposed to CS until they have been instructed in the use of the field protective mask and have completed a minimum of three masking drills. Field protective masks will be checked for serviceability prior to instruction.

7

e. Individuals having a P/3 profile because of respiratory or cardiac conditions will not be exposed to CS until examined by a medical officer who will determine whether or not the individual should be excused.

f. Personnel filling/utilizing CS-1 munitions in bulk must be trained in care and handling of dispersers and be equipped with rubber gloves, protective masks with hood, and rubber apron. Any residual agent should be emptied into a hole four feet deep and covered with earth; water used in cleaning equipment should be drained into a pit and covered with earth (TM 3-1040-215012 refers). (See current edition of MCO P5100.20 concerning disposal of contaminants or hazardous waste.) Disposal of CS-1 must be approved by this headquarters(AC/S, FAC).

g. In the event of gross, accidental contamination of an individual with CS-1 particles, the body should be flushed with a copious amount of cool water. A five percent solution of sodium bisulfate (except in and around eyes) should be used to remove any remnants and the body again rinsed with water.

h. No agent will be used in training or field exercises where it may drift downwind into civilian communities or areas occupied by non-participating military units or installations. CS will be used no closer than 200 meters to vehicular traveled roads and highways.

i. Because of the persistent nature of micro pulverized CS-1, care must be exercised in not contaminating areas and in protection of wildlife from effects.

j. Smoke producing material will not be released when the wind velocity is greater than 15 knots.

k. All personnel undergoing training at the NBC proficiency range will have the M6 series hood and eye piece outserts attached to the M-17 series field protective mask.

3004. EXPLOSIVE ORDNANCE DISPOSAL (EOD)

1. Support Provided. The Base Explosive Ordnance Disposal Team, supported by the 2d FSSG Explosive Ordnance Disposal Platoon, and the MAG-29, New River, Marine Corps Air Station, Explosive Ordnance Disposal Team, provides routine training and emergency support in accordance with the current edition of BO 8027.2E including:

- a. Clearance of unexploded ordnance on live fire ranges.
- b. Disposal of explosive ordnance jettisoned or dropped from aircraft, or which has been involved in a fire or accident.
- c. Support for the disposal of unserviceable ammunition.
- d. Assistance to units conducting live fire, demolitions, or explosives training.
- e. Support for emplacement of targets in high explosive impact area.
- f. Disassembly and inerting service, in the making of ordnance training aids, to those training units supplying serviceable ordnance items.
- g. Certifying unit training aids as "Inert/Empty."

2. Areas of Responsibility. By mutual agreement, the Base EOD Team and MAG-29 EOD Team are responsible for routine support of the Camp Geiger/Verona Loop Area and ranges west of New River. Emergency support is provided by EOD duty watch.

3. Requesting Procedures

a. During normal working hours telephone the Base EOD Team, located at building G-480, Camp Geiger (extension 0558/0382) or Range Control Officer (extension 5803/3065/3066).

b. After working hours telephone the Base Command Duty Officer (extension 2523/2528).

c. Emergency requests will include the name and organization of the requesting individual and the location and description of the ordnance involved. Emergencies can be handled by contacting Range Control Duty Officer ("BLACKBURN" on 38.60 FM, or by phoning extension 3064).

3004. NAVY BOAT CREW

1. Support Provided. The Navy Boat Crew is organized, staffed and equipped to support training involving the navigable waters within the jurisdiction of the CG, MCB, Camp Lejeune. Routine support includes:

a. Downrange guard boats located on the NE and SW points of the Atlantic Intracoastal Waterway (AIWW) to ensure boat traffic safety during live firing into N-1/BT-3.

b. Atlantic Ocean sector guard boat(s) (when available) located near Bear Inlet and Onslow North Tower for N-1/BT-3 firing; and Onslow North Tower and New River Inlet for E-1 range firing.

c. Safety boat back-up support for para-drops into or near navigable waters of MCB, Camp Lejeune. Safety or recovery boats remain the primary responsibility of the training unit, the Boat Crew provides this service on an "as available" basis, and is not equipped for recovery operations.

d. Escort or guide boat service for amphibious vehicles (AAV's or LAV's) transiting navigable waters, primarily the New River.

e. Transport services via LCM-8 across the New River. Troops or equipment will usually be ferried between Weil Point and Rhodes Point. Though this service will attempt to fit into tactical exercises, it remains an administrative movement and will, as such, be controlled by the boat coxswain.

2. Areas of Responsibility. The Boat Crew operates within the jurisdictional control of the MCB as defined in U.S. Coast Pilot 4. This is generally defined as the New River Inlet, the Atlantic Ocean sector from the New River Inlet to Bear Inlet, and seaward 25,000 yards, and the AIWW within MCB, Camp Lejeune boundaries. Boats are equipped with marine band radios and the capability to communicate with Range Control and Range Safety Officers (38.60 and 38.45 FM). Coxswains will operate their boats in accordance with this, Coast Guard, and applicable regulations. As small craft, they will adhere to applicable warnings and will secure from operations as dictated by safety. The senior Navy Boat Coxswain on station will make the final decision to secure boats from operation or to seek temporary safe harbor in the event of foul weather. He will inform the Range Control Duty Officer of his decision and ensure that the range being supported is "cold" before leaving.

3. Requesting Procedures

a. For scheduled firing into N-1/BT-3 Impact Area and artillery fire across the New River into the K-2 impact area, Range Control will routinely provide guard boat support; separate unit requests are not required.

b. For all other boat support, unit requests must be submitted via the chain of command to arrive Range Control 14 days in advance of the Monday of the training week.

4. Emergency Support. Support may be requested directly to the RCDO, "BLACKBURN," on 38.60 FM, or Range Control operations 5803/3065. Due to the location of boats (Gottschalk Marina and trailered at building 1404), emergency response times will vary but can be up to an hour. The primary source of water rescue assistance on base is the Base Fire Department in accordance with the current edition of BO 3130.1. At sea, assistance is provided by the Coast Guard Station at Swansboro (telephone 326-4329) or Base Special Services, Zodiac rescue craft May through September.

3005. RANGE SERVICES AND SUPPORT (RSS)

1. Target systems, materials, and operators are provided by Range Control on ranges as described in Appendix B. In addition to those ranges configured with small arms remotely targeted systems (SARTS), target automated pop-up system (TAPS), or a moving target system (MTS), any range may be configured for SARTS mechanism with adequate advance notice.

a. Scheduling Procedures

(1) Ranges utilizing target mechanisms will be scheduled in accordance with the procedures contained in this SOP. Using unit's TAR must specify desire for target mechanism.

(2) The existing target mechanism configuration for the particular range requested will be used unless otherwise specified by the requesting unit.

(3) If reconfiguration of an existing range or a new range is desired, the request must contain the type of training, the scheme of maneuver, and the weapon(s) to be fired. Upon approval, the unit's Range Safety Officer (RSO) will meet with the RSS Officer (extension 3331) at least ten working days prior to the scheduled range date to coordinate the installation of new pits and an on-site range inspection to fully discuss training and support.

(4) Using units must comply with these range commitments prior to the scheduled range date (to include provision of a working party). If a range is not physically checked out from Range Control by 1200 of the last working day prior to day of usage, the request will automatically be cancelled. This requirement is necessary due to the time, equipment and personnel required to set up a range facility.

(5) The target mechanism configuration on a range will NOT be altered without the express permission of the RSS Officer.

b. Using Unit Responsibilities

(1) During the initial coordination meeting, the RSO will be briefed on range safety, his responsibilities, range control procedures, and the procedures and duties of the range operator.

(2) Target mechanisms will be installed by RSS operators and the using unit's working party, under the supervision of the range operator. The unit's working party will further:

(a) Load and unload target devices.

(b) Perform any minor barrier work on the protective pits necessary to protect the target mechanism.

(c) Construct any new pits desired and approved.

(d) Upon completion of training, fill any pits dug for reconfiguration.

(3) Throughout the range usage, and especially in the event of night firing, the using unit will provide physical security for the target mechanisms when not in use.

(4) Upon completion of firing, and after being released by the range operator, the RSO will immediately check in the range and equipment at Range Control.

(5) Using units desiring augmentation of existing electrical targets with SARTS target mechanisms on ranges such as L-5 and F-4 should request this in the same manner as a range reconfiguration.

c. Range Services and Support Responsibilities

(1) Meet on site with unit's Range Safety Officer.

(2) Provide the range operator who is responsible for:

(a) Insuring that all required target mechanisms and equipment are operable and in position prior to the scheduled firing/training time.

Disc 7-SOP.300
also DISK-4 SOP there,
Briefing the unit's Range Safety Officer on:

1. their respective duties.

2. Range safety, to include any dangerous obstacles.

3. Target mechanism capabilities, use, and safety precautions.

4. Situation of the targets in support of the scheme of
maneuver/training

(c) Supervising target mechanism installation and any repairs needed on the target pits.

(d) Insuring target mechanism pits are adequate to protect devices.

(e) Accompanying the unit's Range Safety Officer on an inspection of the range facility.

(3) The range operator will be the ONLY operator of target mechanisms.

2. Simulators and Demolitions

a. Artillery and Machine Gun (M60 and M-2) Simulators are available to add realism to unit training. Scheduling and advance coordination requirements with Range Control are the same as above.

b. Simulators will be installed and operated by RSS personnel ONLY.

c. Demolitions associated with target mechanisms may be arranged through special request to Range Control.

d. Using units must provide demolitions and combat engineer personnel to place explosives in order to detonate electrically. Range personnel will not be responsible for the placement of demolitions/explosives. This remains the responsibility of the RSO.

3. Area #5 Training Pool

a. The Area 5 pool is under the scheduling authority of the Range Control Officer. Requests will be submitted via the chain of command to arrive at least 14 days in advance of the Monday of the training week and will specify type training, number of personnel, time(s)/date(s), RSO name and WSQ certification; this applies to both recreational and training use.

b. Using units are responsible for the proper care and police of the facility and its equipment, safety, and the conduct of training/activities.

c. Range Control provides operators for the routine daily pool maintenance. Advance coordination with RSS will assure productive training and a facility properly prepared for the unit's particular needs.

d. Base Maintenance is responsible for upkeep, repair and maintenance above second echelon.

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(4) Using units must comply with these range commitments prior to the scheduled range date (to include provision of a working party). If a range is not physically checked out from Range Control by 1200 of the last working day prior to day of usage, the request will automatically be cancelled. This requirement is necessary due to the time, equipment and personnel required to set up a range facility.

(5) The target mechanism configuration on a range will NOT be altered without the express permission of the RSS Officer.

b. Using Unit Responsibilities

(1) During the initial coordination meeting, the RSO will be briefed on range safety, his responsibilities, range control procedures, and the procedures and duties of the range operator.

(2) Target mechanisms will be installed by RSS operators and the using unit's working party, under the supervision of the range operator. The unit's working party will further:

(a) Load and unload target devices.

(b) Perform any minor barrier work on the protective pits necessary to protect the target mechanism.

(c) Construct any new pits desired and approved.

(d) Upon completion of training, fill any pits dug for reconfiguration.

(3) Throughout the range usage, and especially in the event of night firing, the using unit will provide physical security for the target mechanisms when not in use.

(4) Upon completion of firing, and after being released by the range operator, the RSO will immediately check in the range and equipment at Range Control.

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 - (b) Briefing the unit's Range Safety Officer on:
 - 1 Their respective duties.
 - 2 Range safety, to include any dangerous obstacles.
 - 3 Target mechanism capabilities, use, and safety precautions.
 - 4 Actuation of the targets in support of the scheme of maneuver/training,
 - (c) Supervising target mechanism installation and any repairs needed on the target pits.
 - (d) Insuring target mechanism pits are adequate to protect devices.
 - (e) Accompanying the unit's Range Safety Officer on an inspection of the range facility.
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- b. Using units are responsible for the proper care and police of the facility and its equipment, safety, and the conduct of training/activities.
- c. Range Control provides operators for the routine daily pool maintenance. Advance coordination with RSS will assure productive training and a facility properly prepared for the unit's particular needs.
- d. Base Maintenance is responsible for upkeep, repair and maintenance above second echelon.

3006. WET BULB GLOBE TEMPERATURE INDEX (WBGT)1. Operation

a. An annual Base Bulletin (Series 6200) is published establishing the WBGT stations each April. Classes are held prior to the opening of the WBGT season. For information concerning WBGT classes, contact Range Control.

b. The Range Control Officer coordinates the operation of the following WBGT Stations in accordance with the current edition of MCO 6200.1C:

Station Number 1, Building 1 (Mainside)

Station Number 2, Base Rifle Range

Station Number 3, Building BB-28 (MCES)

Station Number 4, Building TC-705 (8th Marines)

Station Number 5, Building M131 (MCSSS)

2. Requests for WBGT Index from 1 May to 30 September. When the temperature is over 85 degrees, WBGT readings may be obtained from Range Control or the appropriate stations (listed above) between the hours of 0800-1700 daily.

3. Use of WBGT Index Readings See the current edition of MCO 6200.1 for information regarding heat casualties and below for application of WBGT/flag readings:

a. Green Flag - When the WBGT Index reads from 80 to 84.9 degrees, heavy exercises for unacclimatized personnel should be conducted with caution and under constant supervision.

b. Yellow Flag - When the WBGT Index reads from 85 to 87.9 degrees, strenuous exercises, such as marching at standard cadence, should be suspended for unacclimatized troops in their first 2 or 3 weeks. Outdoor classes in the sun are to be avoided.

c. Red Flag - When the WBGT Index reads from 88 to 89.9 degrees, all physical training should be halted for those troops who have not become thoroughly acclimatized by at least 12 weeks of living and working in the area. Those troops who are thoroughly acclimatized may carry on limited activity not to exceed 6 hours per day.

d. Black Flag - When the WBGT index exceeds 90 degrees, all strenuous activity should be halted for all troops.

e. Units are cautioned that readings vary from station to station, therefore, reports should be requested from the station nearest the locale of the training to be conducted.

f. The WBGT Index readings are relayed hourly by the RCDO ("BLACKBURN", 38.60 FM) when the reading reaches 85 degrees.

g. The WBGT Index readings are displayed on ITV for informational and planning purposes (e.g., noon runners, PT'ers, PFT, etc.).

3007. DESTRUCTIVE WEATHER AND FIRE DANGER ADVISORY

1. Destructive Weather Warnings. The following conditions are established by the MCB Destructive Weather Plan:

a. Condition V. Secure from previous destructive weather conditions. Return to normal operations and report all storm damage to the Damage Control and Recovery Center (DCRC) extension 2511.

b. Condition IV. Destructive weather trends indicate the possibility of winds of destructive force to occur within 72 hours. In snowstorm systems, a storm front has been reasonably established and weather reports show a possible threat of snow within the local area.

c. Condition III. Winds of destructive force are possible within 48 hours. Weather reports indicate snow accumulation in neighboring states. If trends continue, heavy snow is expected in the eastern North Carolina area within 24 hours.

d. Condition II. Winds of destructive force are anticipated within 24 hours. Heavy snowfall has commenced and snow is beginning to accumulate on road surfaces, creating hazardous road conditions.

e. Condition I. Winds of destructive force are imminent or expected within 12 hours. Heavy snow, sleet, or freezing rain is accumulating in measurable quantities. Roads and bridges are extremely dangerous, and possible accumulation of ice on power lines and snow drifts can be expected.

f. Condition IA. Destructive conditions are in progress. All operations are to be suspended and/or the Base will be closed. Condition IA may be set prior to sequential numbering, depending on the situation.

3008. FOREST FIRE DANGER RATINGS

1. Fire Danger Classes. The Base Fire Department computes the forest fire danger classes three times a day, using the national fire danger rating system. When a fire condition III is reached, the Range Control Duty Officer will notify all training units.

a. Condition I - Fire danger is low. No restrictions on authorized ranges and training areas. Normal safety precautions will be followed. A fire fighting detail, composed of personnel of the training unit, will be formed for the purpose of combating any brush fires that may occur.

b. Condition II - Fire danger is moderate. The use of the training areas will be at the discretion of the Commanding Officer of the training unit. Extreme caution will be exercised in the use of pyrotechnics. Fire fighting details will be kept on a stand-by alert during training.

c. Condition III - Fire danger is high. Two fire fighting details will be formed within the training unit. One will be kept on stand-by alert. Heat tabs and warming fires will be used only in designated places under the supervision of an NCO. Pyrotechnics are restricted to authorized ranges.

d. Condition IV - Fire danger is very high. Pyrotechnics are restricted to the G-10, K-2 and N-1 Impact Areas. Smoking is restricted to fire-proofed areas (areas cleared of any combustibles, i.e., twigs, leaves, grass, etc.) designated by the training unit commander and supervised by an NCO. The use of generators will be restricted to an area that has been fire-proofed to mineral soil for 50 feet around each generator and supervised by an NCO. Heat tabs will be limited to fire-proofed areas, again supervised by an NCO. Warming fires are not authorized. Two fire fighting details are kept on a stand-by alert.

e. Class V - Fire danger is extreme. All military training in forest areas and other activities likely to start fires, will be suspended.

2. At NO TIME will unit fire fighting details be allowed downrange or in the impact area without approval of the Range Control Duty Officer.
3. Base fire fighting details under supervision of Base Fire Chief and/or Dir, NREAD may utilize roads, trails and firebreaks in SDZ's, ranges and bordering impact areas after clearance by RCDO.
4. ALL fires, regardless of size, and all fires extinguished are to be reported immediately to the Range Control Duty Officer, who will notify the Base Fire Department.
5. See the current edition of BO 11320.1 for more information.

3009. MEDEVAC ASSISTANCE PROCEDURES

1. In the event of serious injury, or death, suspend the exercise and:

- a. Render first aid.

- b. Contact the Range Control Duty Officer (frequencies 38.60 FM (old squelch), or 325.0 UHF, or phone extension 3064) and inform him of the following information (maintain constant communications until directed otherwise):

(1) Type of request - air or ground medevac. NOTE: Ground transport is the primary means for medevac at Camp Lejeune, either the using unit's organic vehicle or request a vehicle via Range Control. Helo medevac's should be used as a last resort and only if the injury is actually life threatening helo medevacs will not normally be available nor timely after normal working hours.

(2) Number of patient(s).

(3) Type of injury(ies) - patient(s) condition and whether a corpsman is present.

(4) Location of patient(s) - grid coordinates, prominent terrain feature(s), or site name.

(5) Hazards to aircraft at pick-up point - if applicable.

(6) Method of marking site (i.e., panels, smoke, light, etc.) - if applicable.

(7) Source of injury (e.g., gunfire, automobile, shrapnel, etc.).

(8) Patient(s) name, rank, SSN, age, sex, blood type.

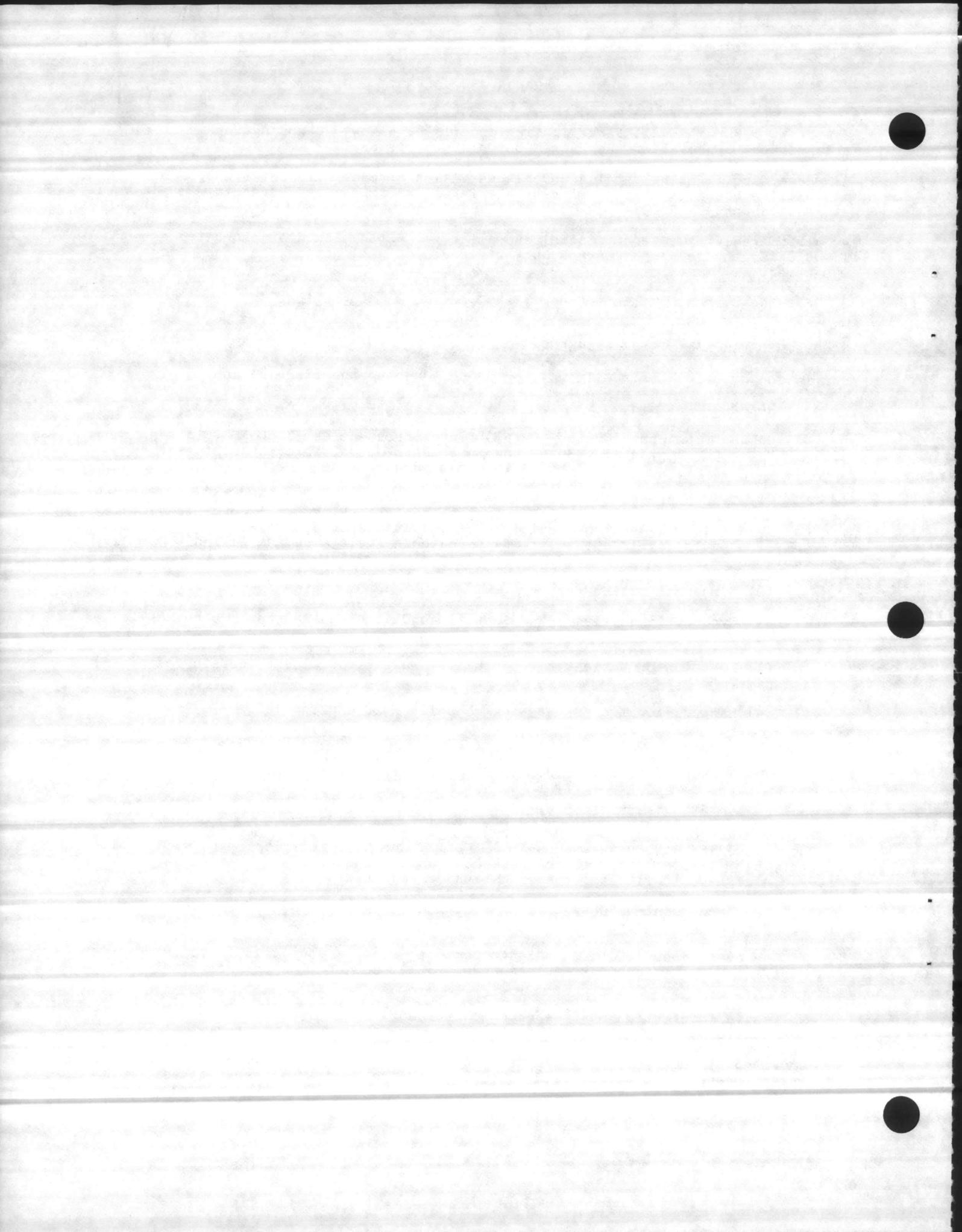
- c. The Range Control Duty Officer will put ranges in the Camp Lejeune complex in a "Check-Fire" condition (as necessary), notify the Naval Hospital, and will monitor the net, but radio checks will be suspended (unless the unit has an emergency, i.e., Medevac, dud, etc. . .) until the situation is resolved.

- d. The Range Control Duty Officer will notify the appropriate command and the Provost Marshal (extension 2555, 2556, 2557).

2. In the event you cannot reach Range Control, contact your unit in the rear or the Base Command Duty Officer (extensions 2526, 2527), and provide the above information/request.

3. The above information must be reported to Range Control even if the unit arranges its own Medevac.

4. Under no circumstances are the names or units of personnel killed or injured on government property to be released to public affairs, media representatives, or other members of the public.



RANGE CONTROL SOP

CHAPTER 4

SAFETY REGULATIONS

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RANGE CONTROL SOP

CHAPTER 4

SAFETY REGULATIONS

4000. SAFETY GUIDES

1. Safety regulations governing the firing of live ordnance within the boundaries of Camp Lejeune are based primarily on, and in accordance with, the reference. All training involving the use of live ammunitions will be in accordance with that reference, applicable field and technical manuals (FM and TM), unit safety SOP's and this manual.
2. Training activity involving air and/or sea space, maneuver areas, or live firing not described in the Weekly Firing Notice, nor properly scheduled and checked out, is prohibited.

4001. RANGE CONTROL DUTY OFFICERS

1. The Range Control Duty Officer (RCDO) is the RCO's representative to insure coordination and control of training to the extent necessary for safe relationships between organizations using air, land and sea space at Camp Lejeune.
2. Although units in the field are responsible for the safe conduct of training, the RCDO will issue "cease firing/check firing" orders when conditions, which may be unknown to the training unit, endanger personnel and property.
3. Units will monitor the safety/administrative control net AT ALL TIMES. The RCDO is the net control, call sign "BLACKBURN", on 38.60 (old squelch) and 325.0 UHF. Units must request permission to go "HOT" and "COLD" from "BLACKBURN", and give radio checks every 30 minutes. If, at any time, a unit loses communications with "BLACKBURN", the RSO will put his range in a "check-firing" state until communications are reestablished.
4. Tactical call signs are not used on the safety net. Units will use their unit name or the range in use as their call sign. Although any traffic may be passed over this net with the RCDO approval, radio procedures will be followed.
5. All aircraft must check in with "BLACKBURN", 325.0 UHF (primary), 38.60 FM (secondary), before entering the R-5306D or R-5306E airspace. See section 4014 for air operations.
6. In the event of an incident (round out of safe, request medevac, down aircraft, etc.) or injury, a "cease firing" command will be given on that range and adjoining ranges, if necessary. The firing unit will report to the RCDO in accordance with paragraphs 3009 and 4003 of this SOP. The RCDO will report to the RCO (or AC/S, Training and Operations in his absence) and appropriate commands. This report must be made before firing may resume. The unit must investigate incidents or accidents involving weapons or ammunition or injury, as required by the reference, to determine causes and corrective action. This investigative report will be forwarded via the appropriate chain of command to this headquarters (Attn: Range Control).

4002. COMMANDING OFFICER OF USING UNITS

1. Designate an Officer in Charge (OIC) (commissioned officer, warrant officer (WO), staff noncommissioned officer (SNCO), E-6 and above) for each firing point or range as specified in figure 4-1.
2. Insures all personnel are familiar with local range procedures and safety requirements.

3. Complies with installation safety procedures and certifies individuals who perform the duties as OIC, range safety officer, and section chiefs to ensure they are:

- a. Competent and properly instructed in the performance of their duties.
- b. Knowledgeable of the weapon system for which they are responsible.

4. Coordinates plans for firing exercises and maneuvers with Range Control (see 4014.10).

4003. OFFICER IN CHARGE (OIC)

1. Prior to Firing. The OIC will be responsible for the overall safe conduct of training and compliance with this Manual. The OIC will appoint a Range Safety Officer(s) (RSO) as required by the reference, and be present at the unit firing area. Prior to firing the OIC will:

a. Direct the Range Safety Officer(s) to report to Range Control (Building 1404) before 1200, the day prior to firing (8th Marine units and MCAS(H) units report to Building TC 705, 8th Marines S-3; Infantry Training School (ITS) units to ITS Operation Center). If units are checking out ranges on the east side of New River, all RSO's must come to Building 1404 to:

(1) Assume responsibility for the scheduled range and related air/sea space or training facility.

(2) Obtain (or certify possession of) required safety equipment - red streamers, red flashing light, if needed, this manual, range phone, etc.

(3) Receive a briefing on conditions or events that may affect range utilization.

(4) Certify that all pertinent range and safety regulations have been read, understood and are complied with.

b. Appoint any number of RSO(s) to assist him in the performance of the OIC's safety responsibilities (must be an E-6 or above).

c. Insure the unit is at the proper range, which the OIC or RSO has signed out.

d. Insure a corpsman is present with the unit and all personnel are wearing steel helmets, flak jackets and hearing protection. (A vehicle designated as a safety vehicle is recommended.)

e. Make sure the Impact Area is clear of unauthorized personnel and safety measures directed by this manual have been taken (e.g., use of barriers/posting of range guards to deny access into the Impact Area, etc.).

f. Assure dual communication is established with Range Control Duty Officer (BLACKBURN, 38.60 FM, 325.0 UHF, phone 3064).

g. Assure all firing precautions (e.g., pre-fire check, bore sighting) are taken and determine when it is safe to fire.

h. Have on hand copy of appropriate FM's, TM's and unit safety SOP's for the weapon system being fired.

i. Allow only authorized ammunition to be fired, including proper charges and fuses, and continuously inspect all ammunition to insure it is within prescribed safe temperature limits.

j. Supervise the procedures for misfires, hangfires and cookoffs.

k. Obtain clearance to fire from Range Control.

2. During Firing. The OIC will insure that:

- a. No one moves or leaves from the firing line on a small arms or crew-served-
weapons range without permission of the OIC or RSO.
- b. No material is removed from the firing line without permission of the OIC or
RSO.
- c. Impacts are observed to insure projectiles land within the prescribed Impact
Area.
- d. The surface danger zone is monitored to ensure it remains clear.
- e. Misfires are removed from the weapon only on command of the OIC in accordance
with procedures established for the weapon.
- f. Weapons are cleared and checked during temporary suspensions of firing.
- g. Records are maintained on the type of ammunition fired, the number of
rounds fired, the number of duds and their location. (Dud grenades must be cleared
by EOD before training can continue. See paragraph 4015.2)
- h. Firing is stopped promptly when any unsafe act is observed or reported.
- i. Any accidents, injuries, or fires are reported immediately to the Range
Control Duty Officer.

3. After the Firing. The OIC will ensure that:

- a. All weapons are cleared. (Vehicle commanders and section chiefs will ensure
their weapons are cleared upon completion of firing.)
- b. The number and location of duds are reported to the RCO or RCDO.
- c. Permission to go "COLD" is requested and received from the RCDO.
- d. The area is policed before leaving. Ensure all brass, cartridge cases, and
reusable containers are removed from the range and returned to the ammo dump. DO NOT
BURY OR BURN TRASH!
- e. The OIC or RSO returns the safety equipment and checks in the range to Range
Control within 24 hours.

4004. RANGE SAFETY OFFICER (RSO)

1. The RSO is appointed by the OIC of firing. In accordance with the reference,
each RSO will be an E-6 or above (unless otherwise noted in the reference), and
will have satisfactorily completed a standard program of instruction, developed by
the battalion to which they are assigned (safety certified), on the duties of an
RSO.
2. In addition to assisting the OIC of firing with the above responsibilities, the
RSO will:
 - a. Check out/in the assigned range(s), as directed.
 - b. Insure weapons are properly positioned.
 - c. Insure road guards, air sentries, etc., are properly briefed in their duties
and position, and that barriers or gates are properly positioned.
 - d. Insure only the authorized weapon and ammunition are include charge, fuse
and fuse settings according to the scheduled firing notice.

- e. Verify that fire settings and weapons are within prescribed safety limits.
- f. Insure the safety net (BLACKBURN 38.60 FM (old squelch), 325.0 UHF) is monitored AT ALL TIMES.
- g. Order an immediate "cease fire" or "check fire" when any unsafe condition is observed.
- h. Enforce the blast focus and safety regulations prescribed in this manual.
- i. Insure that the SDZ is clear and that personnel wear appropriate safety equipment and hearing protection.
- j. Verify all weapons are safe and cleared to the OIC, upon completion of firing.
- k. Report duds and location and fires immediately to the RCDO.
- l. Call the RCDO upon completion of firing and police for an inspection.
- m. Return all safety equipment promptly to Range Control.
- n. Have the appropriate weapon system TM's, unit SOP's and this manual on hand at the range.

4005. COMMUNICATIONS

1. Dual Communications

- a. Two means of communication are required between the training unit conducting live fire or using the airspace and the RCDO. Normally radio will be utilized as the primary means of communication. If dial telephone is available at the range, it can be used as the secondary means.
- b. If a unit fails to maintain required communications, the RCDO will place that unit "COLD" until satisfactory communication is reestablished.
- c. The responsibility for proper communication with the RCDO rests with the training unit. Erection of 292 antenna is recommended whenever possible.
- d. EMERGENCY PROCEDURES. During any MEDEVAC all units will suspend radio checks (unless they have an emergency), until the situation is resolved. All units will continue to monitor the safety net. Training may continue unless BLACKBURN puts the unit(s) into a "check fire." All units will render assistance as requested by BLACKBURN.

2. Magneto (MAG) Lines

- a. MAG lines are positioned within walking distance to each TLZ for maximum assistance to training units in establishing communications with Range Control.
- b. All units are cautioned to inspect both telephone and terminal connection prior to requesting telephone service.
- c. Each MAG line is clearly labeled with a sign showing the proper terminals to be used.
- d. Training units are authorized to tap in at any MAG line terminal for emergency communications.

3. Phone Numbers to Range Control are:

- a. Primary - 3064 (RCDO at OP-2) or 0208 (Verona Loop Range Security) after ranges are cold.

- b. Alternate - 1590/2810 (FSC/RCDO at OP-2).
- c. Emergency - 5803/3065/3066/3920 (RCO/Scheduling SNCO, Building 1404).
- d. EOD Emergency - 0558/0382 (Base EOD Team),

4. Frequencies for Range Control

- a. Primary - Safety Net "BLACKBURN" 38.60 FM or 325.0 UHF.
- b. Alternate - Range Maintenance and Boat Crew 38.45 FM.
- c. EOD - EOD discrete 38.85 FM.
- d. Marine Channel - Boat Crew primary 16 UHF, alternate 82 UHF.

4006. SAFETY EQUIPMENT

1. Personnel. Steel helmets and flack jackets will be worn on all live fire/demolition ranges, GP's or OP's observing/directing live fire; except at those specified in Appendix B. Hearing protection will be worn during all firing.
2. Scarlet streamers, or red flashing light for night firing, must be displayed from range flagpoles before and during all live firing. If any of these items are taken down, the range will cease firing until replaced.
3. When notified by range control, artillery, mortar, tank and anti-tank units will emplace air panels in the direction of fire to notify aircraft. Panels will be emplaced five minutes before firing and displayed in the shape of an arrow.
4. Individual vehicles, tanks, AAVs, and LAVs will display a red flag when firing (see 4014.7).
5. Red grenades and pyrotechnics are used as emergency signalling devices only.
6. Binoculars will be utilized by all forward observers and air sentries when observing airspace and navigable waters.

4007. RANGE MARKERS

1. LEFT FLANKS. The left flank of each firing range is marked by a white post monument. Left lateral limit down-range markers are 3'x5' elevated sign boards painted white.
2. RIGHT FLANKS. The right flank of each firing range is marked by a red post monument. Right lateral limit down-range markers are elevated 3'x5' sign boards painted white with a red diamond in the center.
3. The down-range markers are not targets and will not be used as such. The trajectory of all missiles will pass between these markers.

4008. WARNING SIGNS/RANGE GUARDS/TOWER GUARDS

1. Signs are placed at each range, training facility, and entrances to each impact area. These signs will not be removed or disturbed in any way, nor shall equipment or material be placed against them. Personnel shall not pass beyond signs marked "HIGH EXPLOSIVE IMPACT AREA," "LIVE FIRING RANGE," "DANGER AREA," or similar signs without clearance from the Range Control Officer

2. Range guards or appropriate barriers (with warning signs) will be posted by the using unit to cover all normal approaches to hazardous areas/SDZ. Personnel are cautioned to utilize existing roads and trails, and to comply with instructions posted at entrances to hazardous areas. See Appendix B for required range guard locations. Temporary barriers are available from Range Control.

3. Sentries and/or barriers will be placed at the commonly used approaches to the impact area prior to firing and will have means of communicating with the OIC/RSO. Personnel approaching hazardous areas or live firing ranges by remote or abandoned trails and roads will first obtain clearance for entry from the RCDO.

4. Range guards and tower guards must be competent personnel, preferably NCO's who are familiar with range procedures and capable of taking immediate, positive action in emergency situations. Tower guards must be familiar with communication procedures, thoroughly briefed on their responsibilities and be equipped with binoculars.

4009. WEAPONS AND AMMUNITION

1. Alteration of Ammunition. The alteration of Class V supplies is not authorized (without prior approval from this or higher headquarters). The use of non-standard items is prohibited unless specifically approved by the Commandant of the Marine Corps.

2. Tracer Ammunition. Tracer ammunition will not be fired on 15 or 25 yard ranges impacting into earth barriers except on Ranges K-317 or K-406.

3. Blank Ammunition. Personnel will be instructed on the safety precautions for firing blank ammunition prior to distribution of such ammunition.

a. Maneuver areas and live fire ranges may be used for non-live firing exercises utilizing blank ammunition and pyrotechnics (with the exception of red signals)
EXCEPT:

(1) Restricted areas cited in paragraph 2002.

(2) Sub-areas adjacent to public quarters or trailer parks.

(3) Near base schools.

(4) Heavily populated areas.

(5) No device (pyrotechnic or otherwise) that will achieve a height of 50 feet or higher will be used in areas A, B, MA, MB, or MC. This is due to nearness of MCAS New River.

(6) Units on B-14 will fire pyrotechnic devices so as to achieve a flight path of west or northwest.

b. Blanks will be visually inspected prior to use to ensure safe condition and use.

4. Phosphorus and Toxic Agents. No ordnance filled with phosphorus or toxic agents will be deliberately fired or dropped into the intracoastal waterway, lakes, bays or other bodies of water in or adjacent to Camp Lejeune.

5. Flat Trajectory/High Velocity Weapons. Firing of flat trajectory/high velocity weapons above fifteen degrees must conform in all respects to appropriate danger zone diagrams. See the reference for restrictions. The proximity of major highways, adjacent ranges or maneuver areas demands that careful consideration be given to the range and impact point of flat trajectory projectiles to insure that they impact within established range fans.

6. Magazine Area. No projectile will be permitted to pass over magazine areas or field ammunition storage areas. Firing will not be permitted if any part of these areas fall within the surface danger zone.

7. Field Ammunition Storage. Ammunition placed on ranges will be guarded at all times. It will be covered to protect it from the elements and direct rays of the sun, and will be properly ventilated. Precautions will be taken to prevent accidental ignition or detonation by brush fires or by high frequency radio emissions. Ammunitions will not be buried.

8. Malfunctions and Accidents. Ammunition that fails to perform as expected can normally be attributed to a malfunction, human error, or a weapon/equipment deficiency. When this happens, take appropriate, immediate action, suspend further firing and contact EOD for assistance, if needed. Using unit is responsible for malfunction reports. To insure that the report has the essential data, note the following:

- a. What actually occurred and actions taken by personnel immediately following the malfunction?
- b. Time, date, and weather conditions.
- c. The item(s) involved (e.g., NSN, lot number of each component fuse, primer, etc.).
- d. Condition of ammunition prior to use.
- e. Weapon(s) in use by model and serial number - number of rounds fired, elevation, zone, charge, range to target, etc.
- f. For further study see the current editions of MCO 8025.1, BO P8025.3, and NAVMC 10155.

4010. DEMOLITIONS

1. Training. Normally, the use of high explosive demolitions will be confined to designated demolition ranges. However, requests for the use of demolitions in other training areas will receive consideration. Demolitions used to simulate support fires, when authorized, will be limited to the use of 1/4 pound blocks of TNT.

- a. Charges will be fired in specially prepared pits with positive means to keep personnel at safe distances specified in Chapter 18 to the reference.
- b. Take measures to protect hearing, injury from fragmentation, and inadvertent/premature detonation.
- c. All demolition training operations must be discontinued during or on approach of electric storm.
- d. Mines, fuses, firing devices, trip flares and simulators will be handled only by qualified individuals and in accordance with Chapter 18 to the reference.

2. Disposal of Unserviceable Ammunition and Duds

a. Use of ranges for the disposal of dud and/or unserviceable ammunition must have the prior approval of the Range Control Officer. Disposal of dud ammunition will normally be accomplished by EOD on the range where the dud is located. Authorized ranges for disposal of dud/unserviceable ammunition are as follows:

- (1) Impact Area G-10
- (2) Impact Area K-2
- (3) Impact Area N-1
- (4) EOD Site K-326

(5) EOD Site G-4A

b. The maximum explosive limit, per detonation, for destruction of dud/unserviceable ammunition will be as authorized by the RCDO. The maximum explosive limit certified for range G-4A and K-326 will not be exceeded.

4011. DUD AND UNSERVICEABLE AMMUNITIONS

1. Duds will be reported immediately to the Range Control Duty Officer (phone 3064 or 38.60 FM).
2. The Range Control Duty Officer will request destruction by the explosive ordnance disposal officer.
3. Duds will not be marked, handled, moved, or destroyed except by EOD officers/technicians.
4. Unused or unserviceable ordnance will not be reported as duds but will be marked "unused" or "unserviceable" and returned to the ammunition supply point by the using unit. Mis-fires and hang-fires will be cleared by the using unit, with all safety pins, bands, clips, etc., replaced and the item declared unserviceable. If all safety devices cannot be replaced, place the item of ordnance in a safe area and notify the RCDO for EOD assistance.
5. Any person having knowledge of the whereabouts of souvenir ammunitions, "duds," or abandoned ammunition, will report such facts to the Range Control Officer or the Base Provost Marshal.

4012. NAVIGABLE WATERS

1. The Areas. Navigable waters over which the CG, MCB exercises authority to control access to prevent injuries from live fire target practice are described in United States Coast Pilot 4 (USCP 4) and include the:

a. Atlantic Coast Sector (ACS) Danger Areas bounded on the north by a line bear 105° (true meridian) from CG 00503328; on the east and south by the arc of a circle having a radius of 25,000 yards centered at 91872765; and on the west by a line bearing 205° from 88092475; and on the northwest by the shore. Sector warning buoys are located at GC 85682155 and 08243382.

b. New River Danger Area comprised of the eight sectors outlined on the Camp Lejeune Special Map:

- | | |
|---------------------------|-------------------------|
| (1) Traps Bay Sector | (5) Grey Point Sector |
| (2) Courthouse Bay Sector | (6) Farnell Bay Sector |
| (3) Stone Bay Sector | (7) Morgan Bay Sector |
| (4) Stone Creek Sector | (8) Jacksonville Sector |

c. Atlantic Intracoastal Waterway (AIWW) and navigable waters between Bear Creek, Onslow Beach bridge and New River Inlet to include all inlets, streams, bays and water contained therein.

2. The Regulations

a. Vessels may proceed along established waterways except during military training periods. Warning of military training periods will be given through Notice to Mariners and by displaying, one hour prior to commencement, a red danger streamer during daylight hours or a red light, at night, from those range towers/poles specified in the reference and Appendix B for each range. When these signals are displayed, vessels shall clear the sector immediately.

b. Prior to bombing and firing operations, the ACS and AIWW areas may be searched by aircraft. Water craft in the area will be warned by aircraft "buzzing" of the impending live fire, the sounding of a siren located atop the observation towers, and by safety/guard boats from Range Control. Upon being so warned, vessels will leave the area as quickly as possible by the most direct route.

c. Prior to firing over New River sectors, the area will be visually inspected to ensure it is clear of personnel or vessels. In addition to the above warning streamer/light requirement, see duties of OIC/RSO in this Chapter.

d. All navigable waters in the area between the south bank of Bear Creek and the north bank of the north connecting channel between the AIWW and Brown's Inlet are closed to navigation at all times. There are highly sensitive unexploded projectiles within the limits of this area. Vessels will proceed through the AIWW during non-military use without stopping, except in cases of extreme emergency.

e. Range or tower guards will be provided by the training unit.

f. Each willful violation of the regulations prohibiting entry into the target area(s) during military use (live firing) is punishable in U.S. District Court by confinement not to exceed six months or a fine not to exceed \$500.00.

4013. AIR OPERATIONS

1. Air Space

a. Letter of Agreement. All air space over Camp Lejeune is subject to Federal Aviation Administration (FAA) regulations. A major portion of Camp Lejeune lies within air space designated by the FAA as Restricted Areas R-5306D and R-5306E. Through a Joint Letter of Agreement signed by CG's 2d MarDiv, 2d MAW, 2d FSSG and CG MCB, Camp Lejeune, and in accordance with the reference, Range Control is the scheduling authority for the restricted air space. The RCO will notify Cherry Point Air Traffic Control Facility (ATCF) of the intended use of air space by 1600 on the preceding day(s). This notification will consist of but not limited to:

- (1) Date(s).
- (2) Area (R5306D, R5306E, or both).
- (3) Time period (Zulu time).
- (4) Altitude block.
- (5) Type of activity (specify weapon and ammo).

NOTE: Notification will be documented by both Range Control and ATCF and kept for a period of 18 months. The ATCF supervisor will coordinate with the RCO when air traffic requirements take priority over pre-scheduled air space.

b. Restricted Area R5306D. This includes the airspace from mean sea level to 18,000 feet within the area from GC 02692045 to 92162044 to 87462544 to 76653142 to 84943686 to 94584715 to the starting point.

c. Restricted Area R5306E. This includes the airspace from mean sea level to 18,000 feet within the area from GC 76653142 to 76983529 to 82903910 to 84943686 to the starting point.

d. Warning Area W-122. The portion of Warning Area W-122 of concern to Camp Lejeune is the air space over the Atlantic Ocean 30 miles in radius from a point 3 miles at sea off Onslow Beach Bridge. This air space is controlled by the Navy.

e. New River Control Zone. The area within a five statute mile radius of MCAS(H), New River and within 2 miles, either side of the 046 degree and 226 degree (magnetic) bearing from the New River Radio Beacon, extending from the five statute mile radius zone to eight statute miles NE and SW of the Radio Beacon. This air space is controlled by New River Air Station.

2. Aircraft Restrictions

a. Prior to entering the R5306D or R5306E area, aircraft will contact the RCDO "BLACKBURN" on 325.0 UHF (primary) or 38.60 FM (secondary) for permission to use the airspace.

b. Aircraft flying over the base magazine area (just west of the G-10 Impact Area) and field ammunition storage points are required to maintain a minimum of 1000 feet AGL.

c. Minimum altitude for aircraft overflying residential area is 1000 feet (AGL).

d. Overflights of the G-10, K-2 and N-1 impact areas are prohibited during live firing operations, unless the aircraft is involved in the exercise.

e. No more than one fixed wing mission, with the exception of related firing operations, will be allowed into the restricted airspace at a time.

f. The following are control points used by "BLACKBURN" for air traffic within R5306D and R5306E:

POINT	LOCATION
ALFA	Weil Point (GC 856352)
BRAVO	Gillette Point (GC 807313)
CHARLIE	Intersection of Sneads Ferry Rd and Rt 172 (GC 907304)
DELTA	Bear Creek at Willis Landing (GC 970358)
ECHO	Rt 172 (GC 949329)
FOXTROT	Bear Inlet (GC 005330)
GOLF	Rt 210 (GC 752271)
HOTEL	Verona Fire Tower (GC 736388)
INDIA	Rt 24 Bridge (GC 845459)
JULIET	Hubert Fire Tower (GC 936432)
KILO	New River Inlet (GC 855232)
LIMA	Hadnot Point (Old Hospital Point)(GC 821392)
MIKE	Bogue Inlet (GC 065350)(Use below 3000' AGL requires advance coordination with Cherry Point Air Station Approach Control)
NOVEMBER	Silverdale RR Bridge (GC 015486)
OSCAR	Queens Creek Bridge (GC 014402)

g. Normally, aircraft will be routed around firing positions, ranges, and indirect weapons's gun target line (GTL). To safely allow concurrent air operations and indirect firing, aircraft will approach NO CLOSER THAN 1000 METERS from GTL's.

h. Flights over Camp Lejeune require visual meteorological conditions with helicopter operating day minimums of 500 feet ceiling (1000'/3 miles night) and 1 mile visibility; fixed wing require 2000 foot ceiling (3000'/5 miles night/ordnance) and 5 miles visibility, unless unit minimums are more restrictive. Visual flight rules (VFR) apply.

i. Prior to departing the R5306D or R5306E area, aircraft will contact "BLACKBURN" to checkout.

3. Coordination and Control

a. Forward Air Controller (FAC)

(1) Any aircraft participating in live firing operations, bombing, close air support (live or simulated), paradrops or combined air-ground exercise requires positive control by FAC. FAC can be on ground or airborne (FAC(A)). FAC's and DZ/LZ control officers have the same responsibilities as an OIC of firing, see paragraph 4003.

(2) FAC's and Drop Zone (DZ) control officers are required to report to the Range Control Duty Officer at OP-2 for a range safety brief after 1400 the day before or prior to 0800 the day of utilizing the ranges to insure resolution of any conflicting training situation. This brief cannot be accomplished over the telephone or by radio due to the high volume of radio communications the RCDO must monitor.

(3) Prior to entering the Restricted Airspace, fixed wing aircraft will contact "BLACKBURN" to receive a range brief and permission to use the airspace.

(4) "BLACKBURN" will then switch the aircraft to a frequency change for its assigned FAC. If communications cannot be established, contact "BLACKBURN" for assistance and further instructions.

(5) A minimum altitude from the Initial Point (IP) to the Pop-up Point (PUP) is 700 feet. While within the target area, 500 feet minimum will be used, then pull back up to 700 feet.

(6) CAS missions into Camp Lejeune Impact Area, will not over fly the base magazine area, the industrial area, nor populated/housing areas.

(7) Upon mission complete and when control is released from the FAC, contact "BLACKBURN" before exiting the area.

(8) When necessary for safety, aircraft will be stacked at control/entry points at 1000 foot intervals, beginning at 3500 feet AGL.

(9) The following are the approved attack heading and altitudes (all headings are magnetic):

<u>IP FOR G-10 IMPACT AREA</u>	<u>Altitude</u>	<u>Atk Heading</u>	<u>Offset</u>
Risley Pier	700 Ft	055-105°	Left
Gillette	700 Ft	055-105°	Either
Silverdale RR Bridge	1200 Ft	240-300°	Left
Queens Creek Bridge	1200 Ft	240-300°	Left
Bogue Inlet	1200 Ft	240-300°	Either
Bear Inlet	1200 Ft	240-300°	Right

<u>IP FOR N-1 IMPACT AREA</u>	<u>Altitude</u>	<u>Atk Heading</u>	<u>Offset</u>
Risley Pier	700 Ft	040-120°	Left
Gillette	700 Ft	040-120°	Right
Silverdale RR Bridge	1200 Ft	215-255°	Left
Queens Creek Bridge	1200 Ft	215-255°	Left
Bogue Inlet	1200 Ft	215-255°	Right
Bear Inlet	1200 Ft	215-255°	Right

<u>IP FOR K-2 IMPACT AREA</u>	<u>Altitude</u>	<u>Atk Heading</u>	<u>Offset</u>
Risley Pier	700 Ft	260-280°	Right
Point Charlie	700 Ft	260-280°	Right

NOTE: K-2 Pull offs will be left to avoid overflight of Base Rifle Range, which is "Hot" daily to 500 feet. Remain 5 nautical miles from New River Air Station (TACAN Channel 101). Pattern altitude for K-2 is 1200 to 3000 feet.

(10) Weather restrictions for CAS missions into authorized Camp Lejeune impact areas will be in accordance with weather directives at the wing, group or squadron, whichever is more restrictive.

(11) Simulated CAS missions into any range area will remain clear of adjacent ranges or impact areas.

c. Landing and Paradrop Zones

(1) Tactical Landing Zones (TLZ). Unscheduled helicopter flights into TLZ's may be made if the pilot receives permission from the RCDO. See Chapter 2 for scheduling procedures. See Appendix D or the Camp Lejeune special map for names and locations of TLZ's.

(2) Paradrop Zones (DZ). Paradrop exercises are authorized within designated zones. See Chapter 2 for scheduling procedures. See Appendix D for names and locations. Jumps will comply with Federal Aviation Regulations, Part 105 (Parachute Jumping).

(3) Zone Control. Whenever a TLZ is being used for multiple helo lifts or parachute operations, an LZ/DZ control will be established in the zone who will:

(a) Carry out the duties normally associated with FAC/OIC of firing, to include advance coordination with the RCDO.

(b) Check-in with "BLACKBURN" at the commencement of operations and passively monitor throughout the operation.

(c) Inform "BLACKBURN" of any periods when aircraft are not on station and whenever operations recommence.

(d) Inform "BLACKBURN" when operations are complete.

(e) Rotary wing aircraft will not fly over 300 feet when fixed wing aircraft have entered the Camp Lejeune airspace.

(4) Use of TLZ's on the west side of the New River (Verona Loop area) must be coordinated in advance by the using unit/aircraft with MCAS(H), New River Operations and Scheduling and the Tower (360.2 UHF or 120.0 VHF).

d. Helicopter/OV-10 Operations

(1) Prior to entering the R-5306D/R5306E airspace, pilots will request permission to use the airspace and inform the RCDO ("BLACKBURN") of their location, intended route and mission. They will use the established control points when working the area and monitor radio frequency 325.0 UHF (primary) or frequency 38.60 FM (secondary).

(2) Helos will inform the RCDO when exiting the R5306D/R5306E airspace. The maximum altitude for all rotary wing aircraft to enter the five mile New River airport traffic area is 500 feet.

(3) During all live firing, the RCDO is the coordinating agency.

(4) External lifts are not authorized in the following area(s):

(a) Administrative landing zones (ALZ's); except ALZ 15 and 22.

(b) Administrative areas.

(c) TLZ Sparrow.

Contact the RCDO immediately in the event cargo is dropped accidentally, giving the grid coordinates and type of cargo.

(5) Helicopter live firing will engage targets near the center of the impact area. All targets should be clearly marked. The direction of weapon delivery in G-10 is from 050 to 125 degrees; in K-2 weapon delivery direction is from 070-125 degrees (attack from westerly position), or 095-235 degrees attack from northerly position). Aircraft which utilize lateral weapons engagement will be routed so as to present the minimum hazard to ground troops.

4. Aerial Observation School. The OIC of firing will coordinate school schedules 30 days in advance with the RCO. This and applicable regulations will be followed during training, to include the requirement to have a Range Safety Officer in OP2 or OP5.

5. Remotely Piloted Vehicle (RPV) Operations

a. All RPV operations in R5306E/D will comply CG Second MarDiv message 032025Z July 85

b. RPV units must establish dual communications with the Range Control Duty Officer (BLACKBURN, 38.60 VHF, 325.0 UHF, phone 3064).

c. The OIC of a unit conducting RPV operation must pass the following information to the Range Control Duty Officer (RCDO) prior to his scheduled launch time:

- (1) Altitude block where flight ops will be conducted
- (2) The intended launch time.
- (3) The location of the Ground Control Station (GCS) and the Portable Control Station (PCS)
- (4) The transponder code to be utilized
- (5) The intended flight path of the RPV
- (6) Confirmation that communication has been established between GCS and PCS on the RPV TAC NET if the two are not co-located.

d. Flight Operation. Climb and descent of the RPV will be conducted over the launch site within a 1.5 NM radius. RPV flight operation will be conducted between 3,000 feet and 5,000 feet MSL when transiting from one position to another. Maximum altitude for flight operations is 10,000 MSL.



DISK-7
SOP 400

4014. FIRING RESTRICTIONS AND CONSIDERATIONS

1. Overhead and Flanking Fires. Detailed firing precautions for overhead and flanking fire are contained in the reference. Firing overhead by mortars or from moving vehicles is prohibited.

2. Hand Grenades

a. Fragmentation hand grenades will be thrown from established barrier pits into dedicated impact areas. Once the safety pin has been pulled, the grenade will, on command, be thrown. Do not attempt to reinsert the safety pin.

b. Before live grenade training begins, all personnel must be knowledgeable of and proficient in the safety precautions for handling and throwing live grenades and must have successfully completed grenade training with practice grenades.

c. When a grenade fails to function, the officer in charge of firing will:

(1) Cease all grenade throwing.

(2) Ensure all personnel remain under cover until the dud has been cleared by EOD personnel.

(3) Notify Range Control Duty Officer of the dud hand grenade and request EOD personnel.

(4) Standby to render assistance to EOD personnel as required.

(5) Duds will not be marked, handled, moved or destroyed except by EOD personnel. A 30 minute wait will be observed from the time of the report to clearing a dud grenade.

(6) Request permission from the Range Control Duty Officer to continue throwing hand grenades after the dud has been cleared.

d. No live hand grenades will be handled or thrown after one hour prior to sunset.

e. No down range movement is authorized unless accompanied by EOD personnel.

f. Only one grenade will be armed and thrown at a time.

3. Rifle Grenades

a. Live rifle grenades will be fired from behind established protective barriers. The OIC will insure that only the authorized grenade cartridge is used to fire the rifle grenade.

b. 40mm Grenade Launcher M79, M203, and MK 19, 40mm MG (Grenade). Personnel will be instructed in the proper use of and safety precautions for the launcher before firing live rounds. HE grenades will be fired only into dedicated impact areas appropriately fenced and marked. Only low velocity, authorized rounds will be used.

4. Rockets (66mm LAW, M72; 66mm Incendiary Rocket, M74; 35mm Subcaliber Practice Rockets, M73; 127mm Dragon, M47; and TOW, M220)

a. Rocket launched projectiles will be fired only on authorized ranges and in accordance with this Manual, appropriate technical pubs, and unit safety SOP's.

b. Before firing, the danger zone to the rear will be cleared of personnel, material, and vegetation. Backblast areas are doubled and firers should wear protective masks when the LAW is fired in temperatures below freezing.

c. All loading preparation for firing and unloading will be on the firing line, with the muzzle pointed down range.

d. Rockets will not be fired overhead.

e. Minimum range to impact will be in accordance with weapon system safety criteria and Chapter 8 to the reference.

5. Mortars (60mm and 81mm)

a. Firing mortars over the heads of unprotected troops is prohibited except for troops in armor protected vehicles located 100 meters or more from the line of fire. At Camp Lejeune, mortars will not fire over numbered or named highways. Requests to fire from other than established sites will be handled on an individual basis.

b. Mortars will be fired only into G-10, K-2, or N-1 impact area.

c. Positive means to observe impact is required for night firing.

d. Increments removed before firing will be placed in a metal or wooden, covered container located outside the firing position at a safe separation distance (25m).

6. Artillery

a. All units firing artillery aboard Camp Lejeune will comply with the reference, applicable unit and technical/safety pubs, and 10th Marines' safety regulations (See current edition of 10th Marines' Regt O P5100.12).

b. Artillery will normally fire from only designated gun positions (GP). Requests to fire from other areas/sites will be handled as special requests.

c. Artillery unit safety certification programs, to include specific artillery safety billets, will be in compliance with Chapter 11 to the reference.

d. Surface danger zones for G-10, K-2, and N-1, are described in Chapter 2 of this Manual, and are the only areas authorized for artillery impact.

e. Firing of ICM and antipersonnel-type projectiles over the heads of troops in training is prohibited.

f. Installation public roads approved for use by unprotected personnel (military and civilian) during artillery firing must have signs posted warning the public that artillery rounds may be fired over the roads.

g. Personnel access to Area E within the SDZ is prohibited. As specified in Chapter 11 to the reference, weapon crews firing from an approved tactical configuration and operational personnel involved in the firing exercise with a valid need to enter this area, may do so with the approval of the Range Control Officer. Necessary downrange/road guards or barriers will be emplaced by the firing unit. Traffic on main and secondary roads may be delayed intermittently for short periods of time (5 minutes) when properly scheduled and coordinated with Range Control.

h. M31 field artillery trainer, 14.5mm, is a shortrange, subcaliber weapon which can produce dud projectiles. The M31 trainer may be fired on F-18 range using only M183 cartridge. When firing exercises are completed on F-18, the surface danger zone must be cleared of all duds and projectile residue before personnel are allowed to enter the area. Units will routinely request EOD support following each range period.

7. Tanks and Light Armored Vehicles

a. Tanks equipped with 105mm main gun and LAVs equipped with 25mm chain gun are authorized to fire at ranges designated in Appendix B.

b. Although the commander of the unit is responsible for safety during all phases of firing, vehicle commander are responsible for the safe firing and operations of their vehicles.

c. Tanks may fire the following main gun ammunition: service HEAT, TPT, WP, APERS, SABOT, and smoke grenade. LAVs may fire the following: HEI-T, TPT, APDS-T, and smoke grenades.

d. Static firing. During daylight and good visibility, flags will be displayed by the firing vehicle. At night and during reduced visibility, lights will be displayed by the firing vehicle.

COLOR	MEANING
(1) Red	Vehicle engaged in firing, weapons must be pointed at the target area.
(2) Green	All vehicle weapons are clear and elevated. Any live ammunition in the vehicle is properly stowed.
(3) Yellow	Vehicle has malfunction. Yellow is used only in conjunction with red or green
(4) Red and Green	Vehicle is preparing to fire or the crew is performing a nonfiring exercise. Weapons are clear but not elevated.
(5) Red and Yellow	Vehicle has a malfunction or misfire. Weapons are not clear and are pointed at the target area.
(6) Green and Yellow	Vehicle has a malfunction. All weapons are clear.

e. Firing on the move and battle runs. Once a vehicle begins its battle run and passes the start fire line, all weapons are considered to be loaded and ready to fire. Flags or lights are not required to be displayed, but their use will provide a greater degree of control when more than one vehicle is firing on the move.

f. Completion of firing. When the vehicle has completed its battle run and the vehicle's weapons have been cleared and checked by the TC or RSO, it will move rear range and out from the firing area or maneuver box.

g. Exiting the range. The TC or the RSO will insure that the main gun is aligned within the envelope of the vehicle width when traveling off range on the roadways or tank trails.

8. Aerial Gunnery. Safety measures and range and firing requirements for aerial gunnery, rocketry, and missilery as published in unit SOP's, this Manual, and the reference, will be followed. See Appendix B for authorized ranges, weapons, and special instructions.

9. Air Defense Weapons. Air defense weapons training will be conducted in accordance with this Manual, unit SOP's, and chapter 14 to the reference. This training will be handled as a special request. See Appendix B for authorized ranges G-5, G-6, G-7, and E-1, depending upon caliber of weapon, target type and method of engagement.

10. Fire and Maneuver

a. Fire and maneuver exercises will be conducted only on designated ranges (See Appendix B).

b. Range Safety Officers will be designated whenever fire and maneuver exercises are conducted.

c. Each RSO will be located so that all personnel under his jurisdiction are within his observation at all times. The RSO will be equipped with an appropriate signalling device to effect a CEASE FIRE in the event of danger or emergency. Firing exercises conducted during darkness will require stricter control measures with appropriate signalling devices.

d. The officer in charge of firing, the range safety officer and designated assistants will be thoroughly familiar with safety provisions of Chapter 16 to the reference, which describes the criteria for flanking fire.

e. During fire and maneuver exercises, an adequate number of safety officers will be assigned to insure that every man is positively controlled.

f. Lanes and limits of fire for each firing point will be marked on each fire and maneuver range. The officer in charge of firing will instruct firing personnel as to limits of fire, direction of fire, and the safety regulations for that range.

g. Prevention of accidents or injuries will be a primary concern due to the inherent complexity of fire and maneuver exercises and the need for coordination of their troops. Specifically, they will:

- (1) Comply with the reference and this Manual.
- (2) Train subordinate commanders and safety/controller personnel before conducting live fire exercises.
- (3) Develop a coordinated and detailed plan with Range Control. This plan will include:
 - (a) A detailed scheme of maneuver and fire support plan.
 - (b) A list of weapons, ammunition, pyrotechnics, smoke, and chemicals to be used.
 - (c) Unit control measures, including means of communications.
 - (d) Terrain features and facilities required,
- (4) Provide for safety checks of each weapon system before firing live ammunition.
- (5) Make certain that gunners have fired and passed a certification course for the weapon assigned to them.
- (6) Orient participants on the capabilities of the weapons used by other units/components in the live fire exercise.

h. Fire support by aircraft requires direct communications between the OIC, the FAC and the fire support coordination center that coordinates the supporting fire.

4015. LASER OPERATIONS

1. Contaminated Area. Any area where there is known or suspected unexploded munitions.
2. Firing Lane. The area from which an aircraft or vehicle-mounted weapon is fired. It consists of a start firing line, cease-firing-disarm line, and left and right limits of fire.
3. Laser Terms
 - a. Area S. A 30-meter radius around the target from which all specular surfaces should be removed, covered, painted, or destroyed.
 - b. Area T. The area within the established buffer zones, measured from the laser firing point to meters uprange. No objects will be lased within Area T. Exposure hazard to the skin is insignificant compared to exposure to the eye, but personnel should avoid direct exposure to the unprotected skin up to t meters from the laser device.
 - c. Backstops. Opaque structures or terrain in the controlled area such as a hill, a dense tree line, or a windowless building, that would completely obstruct any view beyond it and completely terminate a laser beam that may miss the target.

d. **Buffer Zone.** A safety margin on either side and above and below the approved target area, extending to a distance at which the beam is terminated by a backstop extending across the target zone, or the NOHD limit is reached. A vertical buffer zone covers the angular distances below the highest point on a backstop or above the non-lasing area. The laser horizontal buffer zone covers the angular distance to the left of the left most target and the right of the right most target.

e. **Intrabeam.** Looking directly at the source of the beam or reflected beam from within the beam.

f. **Laser.** A device capable of producing a narrow beam of intense light.

g. **Laser range safety officer/laser range safety non-commissioned officer (LRSO/LRSNCO).** A designated officer, warrant officer or noncommissioned officer of the firing unit who is responsible for ensuring compliance with the unit standing operating procedure for laser operations and training.

h. **Laser rangefinder.** A rangefinder employing a laser device to emit a pulsed laser beam that is aimed at the target. The range is determined automatically by electronically measuring the length of time it takes for the light beam to travel from the laser to the target, be reflected from the target, and return to the rangefinder.

i. **Laser safety eyewear.** Protective eyewear designed specifically to permit the user to be exposed to either the direct or reflected laser beam from specific laser devices without eye injury.

j. **Laser surface danger zone (LSDZ).** A V-shaped zone designed to contain the laser beam (while lasing) with buffer (safety zones on either side, and above and below the approved target area.

k. **Nominal ocular hazard distance (NOHD).** The NOHD for direct intrabeam viewing is the minimum distance beyond which an unprotected person may stand in the beam and be exposed repeatedly without injury provided he or she does not look at the beam source with unfiltered magnifying optics.

l. **Nominal ocular hazard distance-magnified (NOHD*).** The NOHD for intrabeam viewing through magnifying optics with an 80mm objective and 7mm exit pupil.

m. **Specular (mirror-like).** A specular surface in which an individual can see his/her undistorted reflection. Examples of specular surfaces are: vehicle windows, vision blocks, searchlight cover glass, sheets of plastic, or mirrors.

4. **MILES Exclusion.** As an eye-safe laser, the provisions of paragraph 4016 here do not apply to MILES (Multiple Integrated Laser System); except, MILES XM-62, 63, 64, 65, and 67.

5. **Unit Laser Safety Program.** Prior to conducting any laser operations, training units must establish laser safety programs which, at a minimum include the following elements:

- a. Laser safety organization.
- b. Laser safety regulations.
- c. Activity audit of lasers.
- d. Laser safety training program.
- e. Laser protective goggles/equipment program.
- f. Medical surveillance program.
- g. Accident investigation/reporting procedures.
- h. Records.
- i. Annual reports to NAVELEX.

6. Lasing Unit Commanders (in addition to the above) will:

a. Select, train, and safety certify personnel necessary to assist them in complying with the provisions of Chapter 19 to the reference (e.g., LRSO/LRSNCO) and applicable laser regulations.

b. Provide adequate control of the target area to prohibit entry of unauthorized personnel.

c. Designate a LRSO/LRNCO for each lasing site (can be the OIC of Firing/Range Safety Officer provided he is at the lasing site and is laser safety qualified/certified).

7. Laser Range Safety Officer (LRSO) will:

a. Be knowledgeable of this SOP, the reference, and the FM/TM applicable to the particular laser devices to be used.

b. Brief unit personnel who work with laser devices and any laser range support personnel on laser-related hazards and safety devices, procedures, and measures.

c. Know the azimuths, elevations, and lateral limits of each range, firing positions, and targets to be used.

d. Insure protective eyewear is used when required. Insure unprotected personnel are not exposed to either direct beam or the beam reflected from a specular surface.

e. Insure compliance with this and the unit SOP for laser operations and training.

f. Maintain continuous communication with "BLACKBURN" and any personnel in the target area. Stop lasing immediately if communications is lost. (See paragraph 4005, above.)

g. Stop lasing immediately if positive control of the laser beam is lost. Approve each specific laser firing.

h. Comply with applicable duties of OIC of Firing/Range Safety Officer as listed in paragraph 4003 and 4004 above.

i. Insure no specular surfaces are within 30 meters of the target area and only diffuse reflectors are lased along laser line of sight.

j. Insure controls are in place (range guards/barriers with laser warning signs) to prohibit unauthorized personnel entry into the laser surface danger zone (LSDZ). (Barriers and signs are available from Range Control)

k. Record all laser firings (time, location of laser and target, azimuth to target, type laser) for unit records and report to RCDO upon completion of laser training.

8. Range Control Procedures -- General

a. All lasers will be treated as if they were guns so the same hazard control precautions will apply.

b. All laser operations must be scheduled through Range Control in accordance with paragraph 2001.

c. The underlying concept of laser safety is to prevent intrabeam viewing by unprotected personnel. This is done by locating target areas where no line of sight exists between lasers and uncontrolled, potentially occupied areas and by removing specular surfaces from targets. The controls to prevent exposure to hazardous levels of laser radiation are:

- (1) beamstops
- (2) controlled access
- (3) restricted airspace, and
- (4) a buffer zone around the target area.

d. In addition to those requirements listed for the lasing unit commander and the LRSO, the following general rules apply to all laser operations:

(1) The laser range boundary must be marked with signs (DANGER, Laser Range In Use, DO NOT ENTER) and access roads blocked by either signs/barricades or radio equipped personnel to insure unprotected personnel do not enter the range area.

(2) Prior to lasing, the target and range area must be visually inspected to ensure no unauthorized personnel are in the hazard area. This includes aircraft and ships/boats.

(3) Lasers will not be activated until the target has been positively identified by the operator.

(4) Only the specific designated run-in headings/flight profiles/laser range parameter will be utilized.

(5) Lasers will not be directed above the horizon.

(6) Laser firing logs will be maintained for five years.

(7) The beam must be terminated on government owned or controlled property or airspace, and within the LSDZ within the impact area.

(8) Personnel movements in areas adjacent to the range area should be known by lasing safety personnel, and personnel in charge of the movement or occupied position (adjacent/next to/across from the lasing range) advised of the hazards present. This coordinating safety advisement will be passed to units by the RCDO, BLACKBURN.

(9) The laser exit port must be covered when laser-equipped vehicles travel on range roads or public highways or parked and not engaged in tactical/operations in a controlled environment.

9. Range Control Procedures -- Camp Lejeune

a. During April 1985, the below ranges with SDZ's extending into K-2, G-10 and BT-3/N-1 impact areas were laser safety certified contingent upon adherence to safety regulations contained herein and applicable references, and only for use with the LLTD, AN/GVS-5, GLLD, MULE, OV-10D NOS, and A-6E TRAM lasers. Specular reflectors were also removed from target areas during this time.

b. The above laser systems may be operated only on the below designated ranges and target locations utilizing specifically authorized run-in headings and positions of lasers. No aircraft with unprotected personnel may be in the restricted airspace within 5 nautical miles and 10 degrees of the potential laser line of sight.

c. No unprotected personnel shall be allowed to view the laser beam or its specular reflection with or without magnifying optics, unless personnel or magnifying optics have eye protection attenuating filters of optical density (OD) equal to or greater than those values contained in Figure 4-1.

d. K-2 Impact Area Targets. Subject to the conditions of this Manual, the K-2 impact area ranges and target shown in Figure 4-3 are authorized for ground laser systems listed in Figure 4-2. Aircraft systems are not considered safe for use against targets in K-2 impact area. All laser beams must terminate within the impact.

e. G-10 Impact Area Targets. Subject to the conditions of this Manual, the G-10 impact area ranges/OPs and targets within the cones shown in Figure 4-4 are authorized for airborne and ground laser systems described below and listed in Figure 4-2.

(1) The LLTD, the GLLD, the AN/GVS-5, and the MULE laser systems may be positioned at OP-2, OP-3, or OP-5 and directed at targets located with the cones described in Figure 4-4. The beam must terminate within the impact area.

(2) The OV-10D NOS and the A6-E TRAM airborne laser systems may operate against targets located in the area entitled "aircraft targets" in Figure 4-4, provided the aircraft remains at or above the flight profiles and on the headings contained in Figures 4-5 and 4-6. The beam must terminate within the impact area.

(3) Lasing units must ensure warning signs are in place and all adjacent units cautioned of the laser training prior to lasing. This is particularly important due to the density of units/ranges located in the vicinity.

f. BT-3/N-1 Impact Area Targets. Subject to the conditions of this order, the BT-3/N-1 impact areas ranges and targets within the cones shown in Figure 4-7 are authorized for airborne and ground laser systems described below and listed in Figure 4-2. All laser beams must terminate within the impact area.

(1) Browns Tower on the BT-3/N-1 range may be used as a laser position provided the laser is a minimum of 25 feet off the ground, is in the tri-pod mounted configuration, and targets are no closer than 500 meters to any body of water.

(2) The OV-10D NOS and the A6-E TRAM airborne laser systems may operate against targets located in the area entitled "aircraft targets" in Figure 4-6, provided the aircraft remains at or above the flight profiles and on the headings contained in Figures 4-8 and 4-9.

g. Figure 4-10 depicts sample laser range surface danger zones/fans.

RANGE CONTROL SOP

Officer in Charge and Range Safety Officer Requirements

Weapon System	Officer in Charge			Range Safety		
	OFF	WO	NCO	OFF	WO	NCO
Practice hand grenade and rifle grenades; subcaliber training devices; Laser ranges; firing devices; simulators, trip flares; small arms and machineguns	X	X	E6	None required except for Laser ranges		
Chemical agents and smoke	X	X	X	None required		
Aerial gunnery, air defense weapons; flamethrowers; live grenades (hand and rifle); mines and demolitions; mortar; recoilless weapons; rockets; guided missiles, tank cannon	X	X	E7	X	X	E6
Artillery	X	X	E7	X	X	E6
Live fire exercises using organic weapons, squad through company, battery, troop	X	X	E7	X	X	E6
Combined arms live fire exercises using outside fire support: Squad-section-platoon Company, battery troop, battalion, squadron or larger	X X	X	E7	X X	X	E6

Figure 4-1.--Officer in Charge and Range Safety Officer Requirements

RANGE CONTROL SOP

1. The following lists the systems which can be operated on the Camp Lejeune ranges, their assigned buffer zone, the nominal ocular hazard distance (NOHD), and the optical density (OD) necessary to protect personnel for both aided and unaided viewing the beam.

2. The NOHD is the distance from the laser at which the energy concentration has dropped below the eye protection standard. Magnifying optics increase the NOHD dramatically. Personnel required to be within the NOHD should have eye protection of the proper OD and wavelength in place during laser operations. An OD of 6 or greater at 1064 nanometers wavelength is adequate to protect personnel under all viewing conditions.

NOHD/EYE PROTECTION REQUIRED (OD) AT 1064 NANOMETERS

<u>SYSTEM</u>	<u>BUFFER</u>	<u>NOHD UNAIDED</u>	<u>NOHD 8cm OPTICS</u>	<u>OD UNAIDED</u>	<u>OD 8 cm OPTICS</u>
A6-E TRAM	5 mrad	14.6 km	58.0 km	4.6	5.8
OV-10D NOS	5 mrad	12.2 km	56.2 km	5.2	5.6
LLTD	15 mrad	6.9 km	27.0 km	4.0	4.9
MULE	2 mrad	19.0 km	79.0 km	3.9	5.6
GLLD	2 mrad	25.0 km	80.0 km	5.5	6.0
AN/GVS-5	10 mrad	1.1 km	8.5 km	4.4	5.3

Figure 4-2.--NOHD/eye Protection Required.

RANGE CONTROL SOP

K-2 Impact Area

Camp Lejeune Special Map

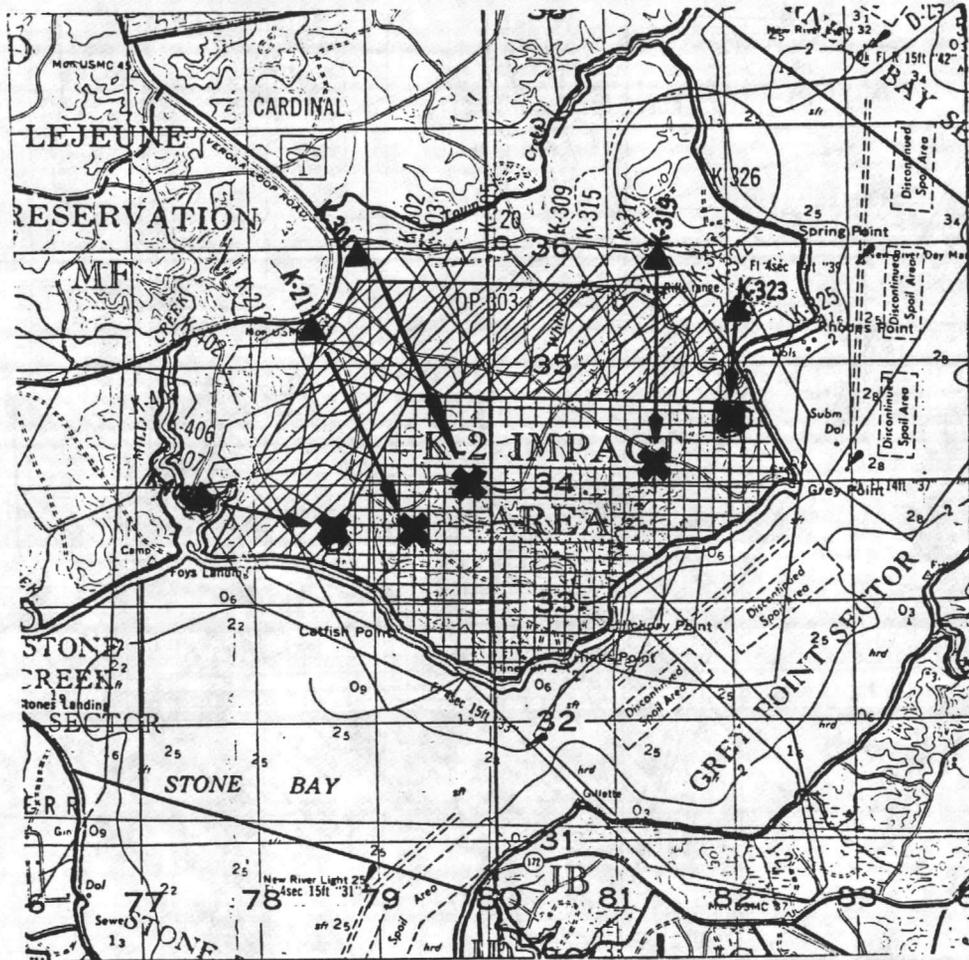


Figure 4-3.--K-2 Impact Area.

RANGE CONTROL SOP

G-10 IMPACT AREA
CAMP LEJEUNE SPECIAL MAP

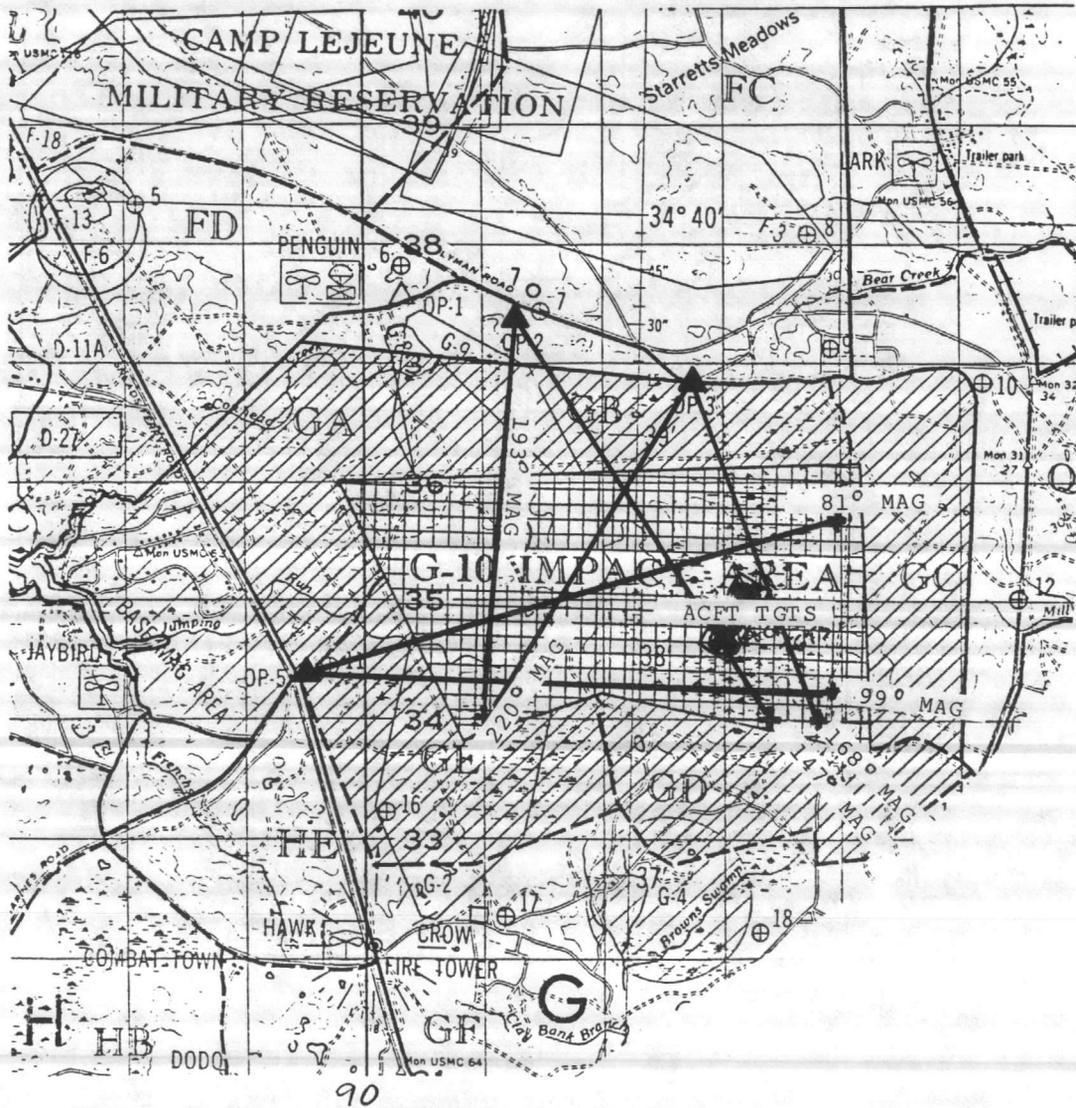
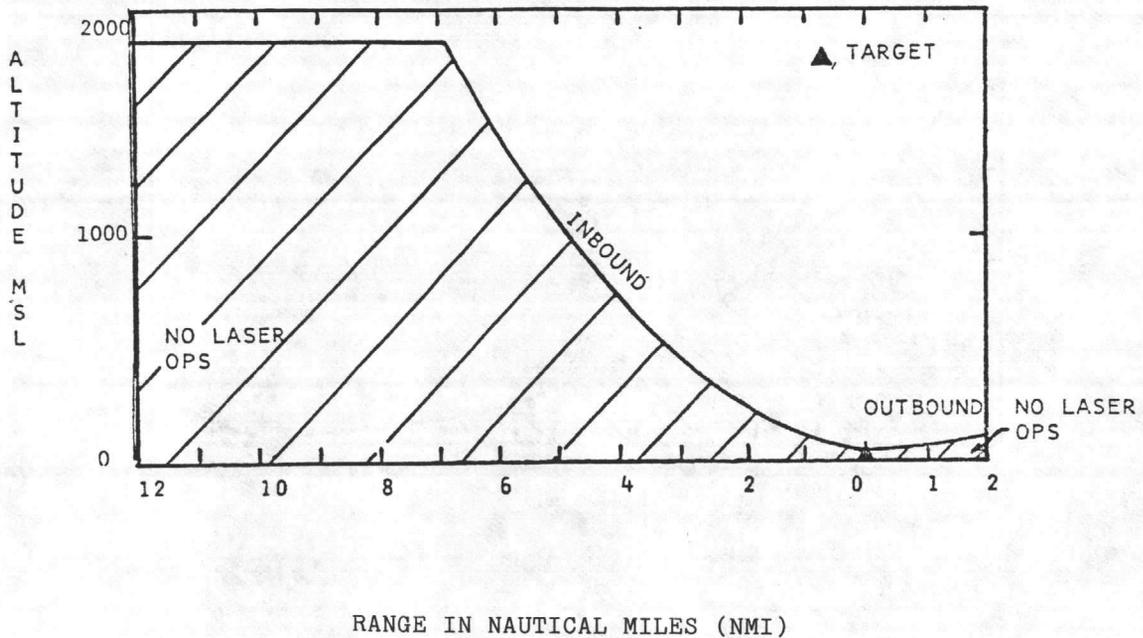


Figure 4-4.--G-10 Impact Area.

RANGE CONTROL SOP

CAMP LEJEUNE
 G-10 97 DEG MAG
 OV-10D NOS and A-6E TRAM FLIGHT PROFILES FOR LASER OPS

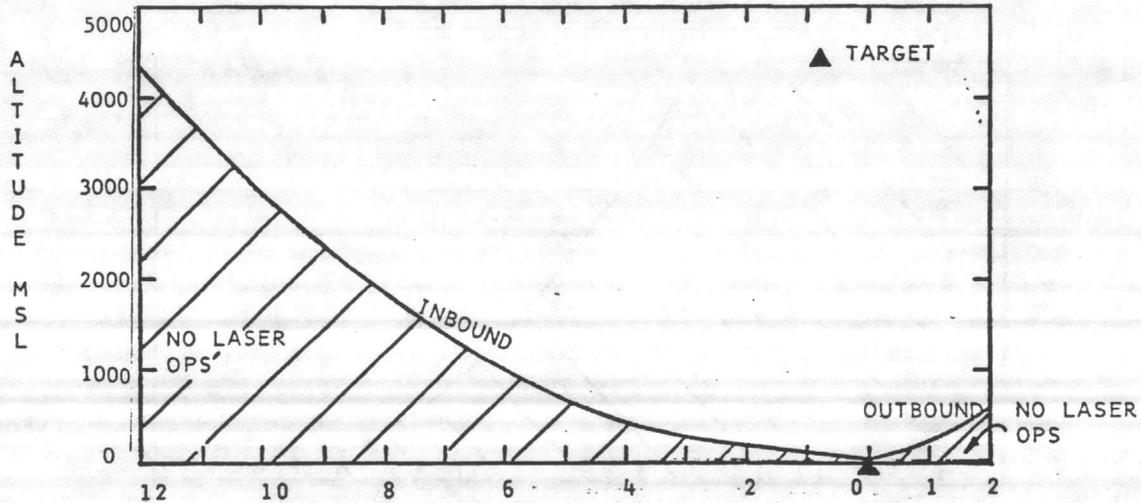


INBOUND		OUTBOUND	
DISTANCE TO TARGET	MINIMUM ALTITUDE MSL	DISTANCE FROM TARGET	MINIMUM ALTITUDE MSL
12 (NMI)	1850 ft	1	100 ft
11	1850	2	150
10	1850		
9	1850		
8	1850		
7	1850		
6	1450		
5	1050		
4	700		
3	450		
2	250		
1	100		
0	50		

Figure 4-5.--Flight Profiles.

RANGE CONTROL SOP

CAMP LEJEUNE
 G-10 277 DEG MAG
 OV-10D NOS and A-6E TRAM FLIGHT PROFILES FOR LASER OPS



RANGE IN NAUTICAL MILES (NMI)

INBOUND		OUTBOUND	
DISTANCE TO TARGET	MINIMUM ALTITUDE MSL	DISTANCE FROM TARGET	MINIMUM ALTITUDE MSL
12 (NMI)	4350 ft	1	118 ft
11	3600	2	250
10	2950		
9	2400		
8	1850		
7	1404		
6	1450		
5	1000		
4	700		
3	450		
2	200		
1	100		
0	50		

Figure 4-6.--Flight Profiles.

RANGE CONTROL SOP

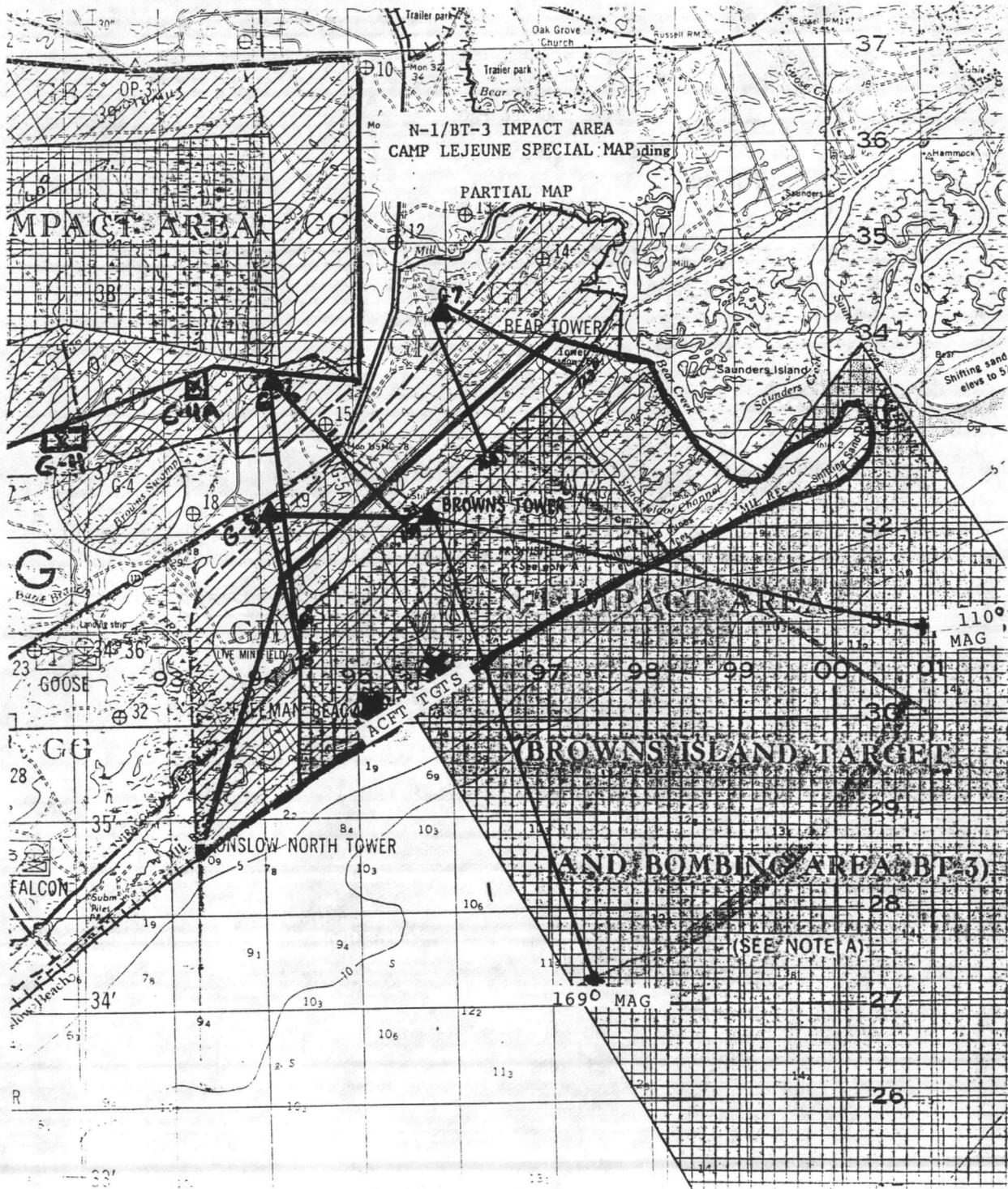
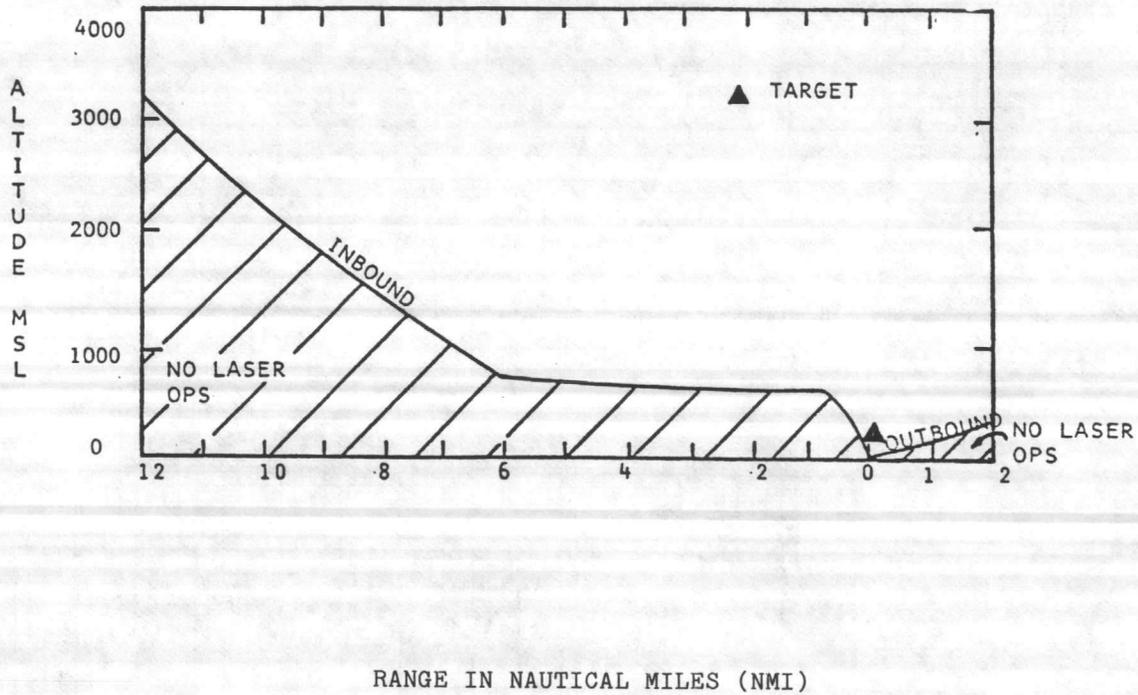


Figure 4-7 --N-1/BT-3 Impact Area.

RANGE CONTROL SOP

CAMP LEJEUNE
 BT-3 156 DEG MAG
 OV-10D NOS and A-6E TRAM FLIGHT PROFILES FOR LASER OPS



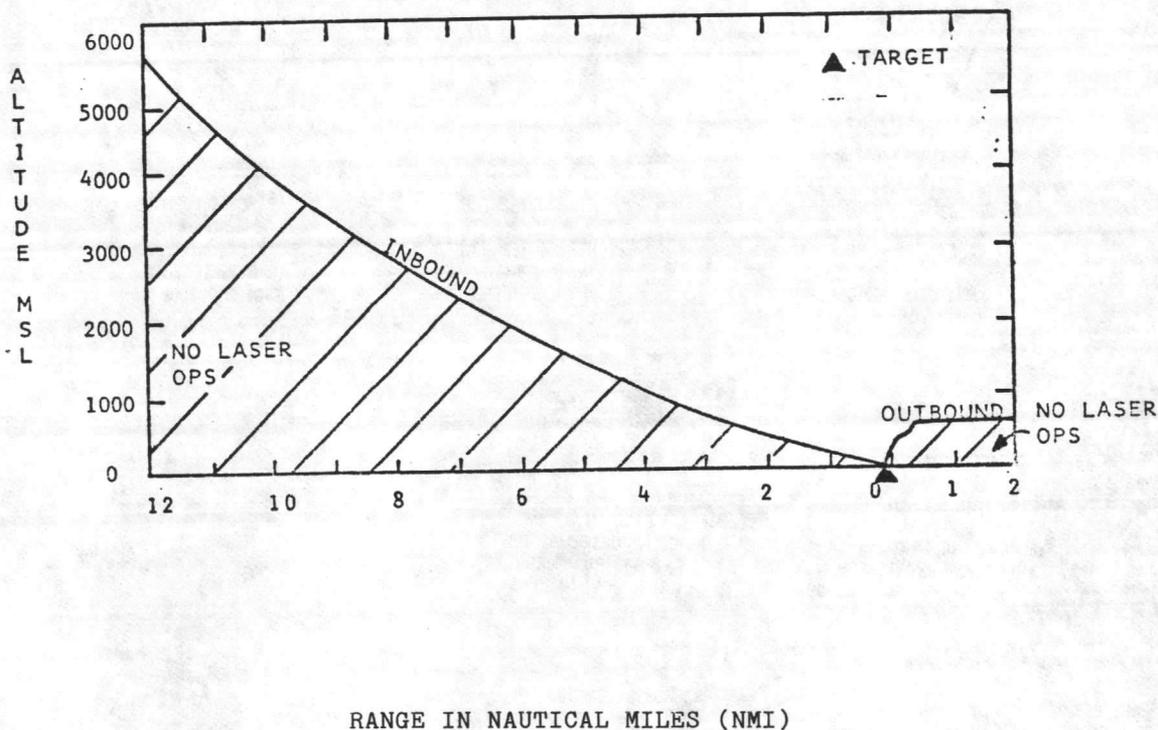
INBOUND		OUTBOUND	
DISTANCE TO TARGET	MINIMUM ALTITUDE MSL	DISTANCE FROM TARGET	MINIMUM ALTITUDE MSL
12 (NMI)	3200 ft	1 (NMI)	200 ft
11	2700	2	400
10	2300		
9	1700		
8	1350		
7	1000		
6	800		
5	600		
4	600		
3	600		
2	600		
1	600		
0	145		

Figure 4-8.--Flight Profiles.

RANGE CONTROL SOP

12

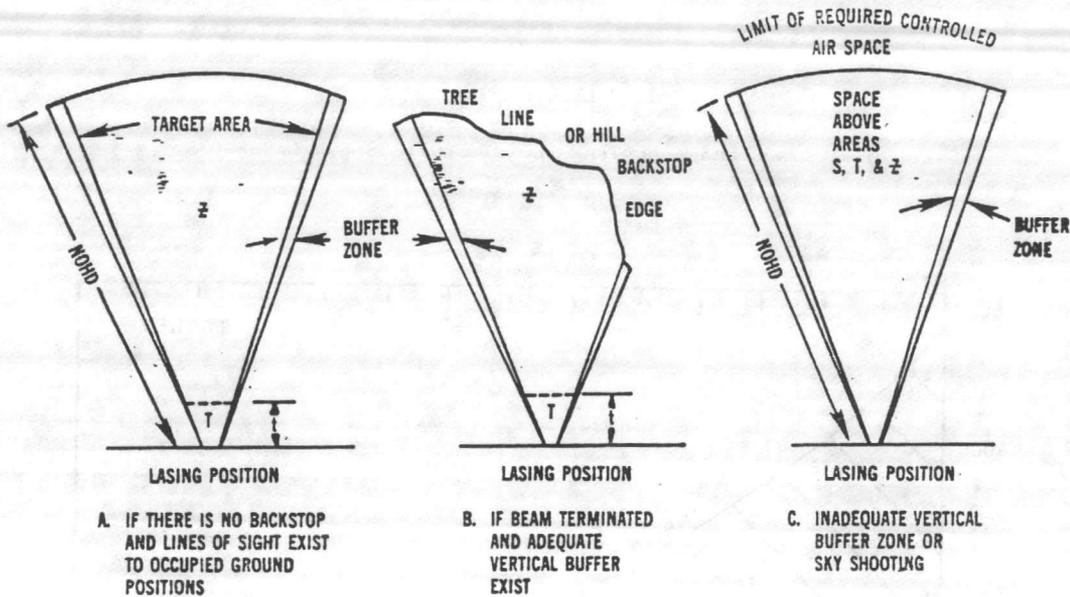
CAMP LEJEUNE
BT-3 336 DEG MAG
OV-10D NOS and A-6E TRAM FLIGHT PROFILES FOR LASER OPS



INBOUND		OUTBOUND	
DISTANCE TO TARGET	MINIMUM ALTITUDE MSL	DISTANCE FROM TARGET	MINIMUM ALTITUDE MSL
12 (NMI)	5400 ft	1 (NMI)	600 ft
11	4550	2	600
10	4050		
9	3400		
8	2850		
7	2300		
6	1800		
5	1350		
4	1000		
3	700		
2	400		
1	200		
0	50		

Figure 4-9.--Flight Profiles.

RANGE CONTROL SOP



CONDITION/SITUATION

M60 A3 WITH STABILIZATION AND LASER RANGEFINDER FIRING THE MAIN GUN WHILE MOVING. IN THE COMMANDER'S JUDGMENT, THE POSSIBILITY OF AN OBSERVER WITH MAGNIFYING OPTICS OBSERVING THE LASING TANK FROM A DISTANT GROUND POSITION BEYOND THE NOHD IS VERY REMOTE. THE AIRSPACE DOWNRANGE IS RESTRICTED OUT TO 10 KM.

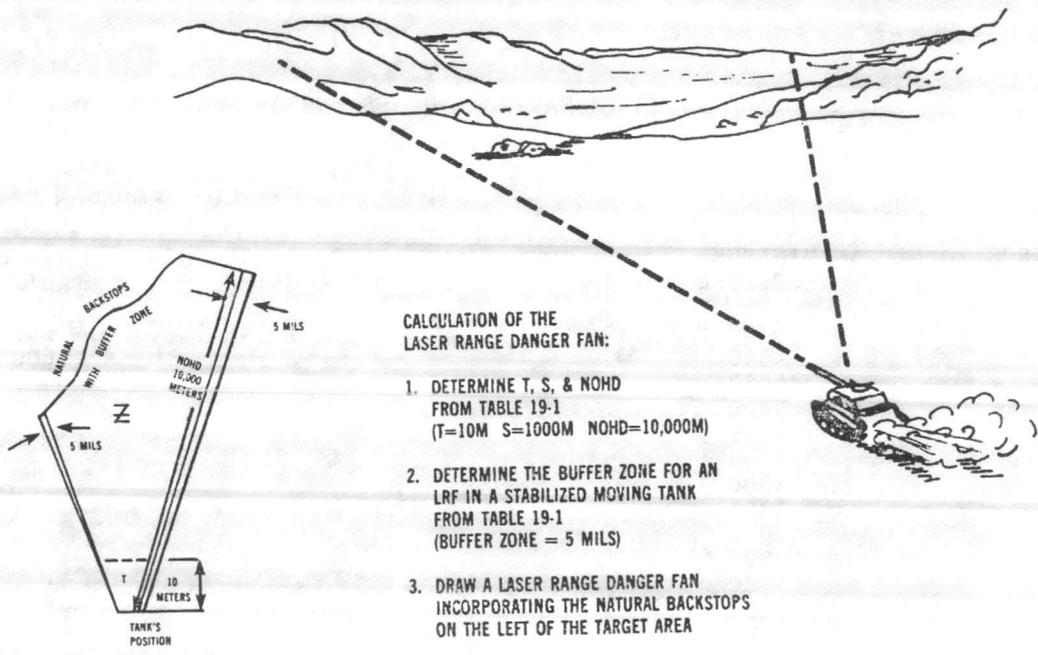


Figure 4-10.--Laser Fans

RANGE CONTROL SOP

DISK-7
SOP APP
4
(DISK-12)
(do not need)

APPENDIX A

DEFINITIONS

Administrative Area - An area assigned for administrative and logistical functions, such as housing, troop billets, offices, storage and maintenance areas. Normally, field training and live firing are not conducted in administrative areas.

Administrative Landing Zone (ALZ) - A predesignated number helicopter landing zone which provides major commands a ready access to air transportation and medical evacuation.

Air Sentry - An individual designated by the officer in charge of firing to maintain surveillance of an assigned sector of airspace to warn of the approach of aircraft. In some cases, air sentries also observe navigable waters for the approach of vessels.

Air Support Radar Team (ASRT) - The ASRT is a terminal air support control agency which can provide precision control in all weather conditions. Missions which may be conducted by ASRT include, but are not limited to, close air support (CAS), Flare-drop, photo missions, para-drop, and helo positioning.

Approach and Retirement Route - A predesignated air traffic lane for helicopters, generally used in air or air/ground training exercises. These routes may be utilized by the Range Control Duty Officer or a helicopter direction center to route helicopter traffic around potentially dangerous areas.

Base - Marine Corps Base, Camp Lejeune.

"BLACKBURN" - The communication call sign for Range Control (Radio: 38.60 FM (old squeelch) or 325.0 UHF; telephone 3064).

Blast Focus - The refraction patterns of shock waves through the earth's atmosphere. See Appendix J for explosive equivalent data.

"CHIEFTAIN" - Communication call sign for the DASC at the FSCCA at OP2 (when activated) for all aircraft. (Radio 38.60 VHF or 325.0 UHF, telephone 3064).

Closure (of Intracoastal Waterway) - An authorized interruption of vessel traffic on the Intracoastal Waterway requiring advance permission of the U.S. Army District Corps of Engineer and the publication of a Notice to Mariners.

Coast Pilot 4 - Regulations concerning federally controlled waterways from Camp Henry to Key West, published by the U.S. Department of Commerce (Coast and Geodetic Survey) and which delegates to the Commanding General, Marine Corps Base, Camp Lejeune powers as enforcing agency for waters in the "New River, N. C. and vicinity; Marine Corps Firing Ranges."

Common Impact Area - The impact area created when the surface danger zones of concurrently used ranges overlap.

Control Zone - An airspace of defined dimensions designated by appropriate authority, usually the FAA. The zone extends upward from the ground or water and includes one or more air zones, within which rules apply for the protection of air traffic.

Cookoff - The detonation of any or all of the explosive components of a round chambered in a hot weapon, caused by the heat of the weapon.

Danger Area - A sea or water space in which hazards may exist to mariners. The New River and Atlantic Coast Sector areas are designated by Coast Pilot 4 as danger areas due to military training exercises conducted at Camp Lejeune.

Demolitions - Explosive charges, simulated or real, designed to add realism to training, or to destroy material or unserviceable ammunition.

RANGE CONTROL SOP

Direct Air Support Center (DASC) - The air support control agency at the FSCCA at OP2 (when activated) whose (radio 38.60 FM or 325.0 UHF) communication call sign is "CHIEFTAIN".

Drop Zone - A tactical landing zone in which personnel or cargo paradrops are authorized.

Dual Communications - The establishment of two means of communication, usually radio backed up by telephone (either radio, MAG line or dial telephone), and required by the nature of the training exercise.

Dud - Ammunition of any caliber or weight which has been fired, placed, dropped or thrown, but which fails to function in the manner intended.

Exclusion Area - Areas in which training is not authorized. Building SH-8 and magazines SH-12 and SH-13 are designated as "Exclusion Areas" and the fenced-in areas surrounding them are designated as "Limited Areas".

Field Training Facilities - Those areas designated for a specific type of training, normally not requiring the use of live ordnance. For example: dry net training facilities and combat town are classified as field training facilities.

Fire and Maneuver Range - Ranges on which troop movement and live firing may be conducted simultaneously.

Firing Lane - The area within which an aircraft or vehicle-mounted weapon is fired. It consists of a start firing line, cease-firing-disarm line and left and right limits of fire.

Firing Notice - See "Weekly Firing Notice".

Firing Line or Point - The location from which a weapon is fired at a target or impact area.

Flanking Fire - Live fire delivered against the flank of a target.

Flat Trajectory/High Velocity Weapons - Recoilless rifles, tank guns, LAV 25mm, artillery when firing direct and machine guns.

Food Plots - Food plots are prominently marked, cultivated sites positioned within various maneuver areas, intended to assist in the preservation of natural wildlife. Accordingly, units engaged in field training exercises may enter, bivouac, use as GP, etc., but will not damage these plots.

Forest Fire Danger Conditions - A restriction placed on training exercises due to the possibility of forest fire.

Forward Air Controller (FAC) - The officer designated to serve in the same capacity as an officer in charge of firing, but specifically for air operations.

Gun Position (GP) - Preselected positions from which artillery and mortars engage in high ordinate firing exercises.

Hangfire - A delay in the functioning of the propelling charge's explosive train. The duration of such delay is unpredictable and may extend from a split second to several minutes.

Hazardous Area - Areas made dangerous to personnel by live firing, existence of duds, or placing of mines or dangerous contaminants. Specific authorization from Range Control must be obtained before entering.

High Ordinate Firing - Firing of projectiles above an altitude of 500 feet, and requiring publication of Notice to Airmen (NOTAM's).

RANGE CONTROL SOP

High Explosive Impact Area - Impact areas specifically designated for impacting of all types of ordnance, such as G-10, K-2 and N-1 high explosive impact areas. These areas must not be confused with the danger area forward of live firing activity as defined in reference (a). These areas are also referred to as dedicated, or permanent impact areas.

Impact Area - The area into which the fire of weapons is directed. It usually extends from the far boundary of the target line or area to the maximum range of the weapon and ammunition fired. It is bounded on the flanks by the right and left limits of fire established in the surface danger area diagram for each type weapons.

Known Interference - Conditions affecting the safe conduct of live firing or training exercises.

Land Line (LL) - A metallic line between two telephones or between telephones and a switchboard.

Live Fire Range - A range on which live fire exercises, including the use of some types of practice ammunition, may be conducted.

Magneto Line (MAG Line) - A line from which field telephone equipment is operated from the field to a main switchboard in order to obtain dial capability.

Maneuver Area (MA) - Two or more training areas, designated alphabetically by a single letter in which field training exercises using blank ammunition, certain pyrotechnics and limited demolitions may be conducted with authorization. Live fire ranges and tactical landing zones normally are located within maneuver areas. (Examples: F, H, M, etc.).

MCB, CLNC - Marine Corps Base, Camp Lejeune, North Carolina

Misfire - A complete failure to fire which may be caused by a faulty firing mechanism or a defective element in the propelling charge.

Navigable Waters - Waters upon which navigation of vessels is possible, but not always permissible. Navigable waters in the Camp Lejeune complex are governed by Coast Pilot 4 which delineate areas in which vessels may or may not navigate and under what circumstances.

NBC - Nuclear, Biological, Chemical.

NBC Agents - Devices, biological agents and chemicals which may cause damage, incapacity, injury, sickness and/or death.

No Fire Zone (NFZ) - An area specifically designated into which no ordnance may be fired/delivered.

Notice to Airmen (NOTAM) - A message to aircraft pilots in a specific area warning of airspace restrictions caused by dangerous conditions such as high ordinate firing or scheduled air training exercises.

Notice to Mariners - A publication to mariners and vessels warning of conditions dangerous to navigation such as live firing or amphibious exercises.

Observation Post (OP) - A point from which impacting projectiles may be observed. The location of permanent observation posts at Camp Lejeune are contained in Appendix D.

Officer in Charge of Firing (OIC) - An officer designated by the Commanding Officer of the training unit who assumes responsibility for all aspects of live fire, paratroop or air exercises. This term is used synonymously with Forward Air Controller.

RANGE CONTROL SOP

Overhead Fire - The firing of projectiles over the heads of personnel, or over areas in which the presence of personnel is suspected, either in training, bivouac or garrison.

Paradrop - The controlled aerial delivery by parachute of personnel or equipment.

Position Safety Officer (PSO) - An officer assigned by the officer in charge to enforce all safety measures at specific firing point, line or area.

Practice Range - A range upon which only specified types of practice ammunition may be fired.

Prohibited Area - An area in which training normally is not authorized.

Pyrotechnic - Non-injurious smoke or signals, either flares or grenades. White phosphorus is not considered a pyrotechnic for the purposes of this SOP.

Range - A training facility designated for live fire, practice firing of weapons, demolitions, flame, or fire and maneuver exercises.

Range Control - The section responsible for coordinating and controlling training areas to insure safe use of facilities. The section maintains a commissioned officer communications watch during live firing, paradrop and air exercises in the Camp Lejeune complex.

Range Control Duty Officer (RCDO) - The representative of the Range Control Officer on duty during live firing, paradrop and air exercises (call sign "BLACKBURN").

Range Control Officer (RCO) - The officer under the cognizance of the Assistant Chief of Staff, Training and Operations, who exercises control over the use of all training areas, ranges, and services to insure coordination and adherence to safety regulations. Responsible for scheduling and adherence to safety regulations. Responsible for scheduling and assigning of ground, air and sea space, and the maintenance and safe use of training facilities under the RCO cognizance.

Range Guard - An individual designated to maintain surveillance over an assigned locale to prohibit unauthorized entry into the surface danger area and to give the alarm in the event he detects such entry.

Range Operator (RO) - A member of Range Control knowledgeable in a specific range and its equipment, assigned to assist the officer in charge of firing.

Range Safety Officer (RSO) - An officer or staff noncommissioned officer assigned by the officer in charge of firing to assist in enforcing all safety measures within the air/surface danger area.

Restricted Airspace - An airspace established by the Federal Aviation Agency in which there is a hazard. Examples are aerial gunnery and bombardment, guided missile, artillery, or other type firing. Permission must be granted to a flight before it may traverse a restricted area during periods when the area is in use. Restricted areas are effective during various times between various altitudes. Details as to boundaries, altitudes, time of use and controlling agencies are published by the Federal Aviation Agency and may also be found on radio Facility Charts. Changes in a restricted area are published in Notices to Airmen (NOTAM's) and the "Airman's Guide."

Restricted Area - A general definition applicable to areas in which controls are imposed over troop and vehicle movements due to the proximity of quarters, schools, recreational facilities, etc.

"Rolls Royce" - Division's Fire Support Coordination Center's (FSCC) call sign on 38.60 FM (old squelch), used to assist "BLACKBURN" with units firing indirect fire weapons.

RANGE CONTROL SOP

Surface Danger Zone (SDZ) - The area encompassing the entire range, as designated by the commanding officer of the installation, into which only authorized persons are permitted entry during conduct of a firing exercise. It is generally composed of a firing line or area, an impact area, and a ricochet area on either side of and beyond the outer end of the impact area. The surface danger zone will vary with each weapon and consists of the following areas:

a. **Target area.** The point or location to which the weapon is to be fired. (For demolitions, the target area is the point or location at which the demolition charge is emplaced.)

b. **Impact area.** The primary danger area for indirect fire weapons that is established for the impact of all rounds. When applied to direct fire weapons, it is the area located between established range limits. The impact area is within the approved surface danger zone.

c. **Ricochet area.** The area between the impact area and Area A that parallels the line of fire. It is provided to contain ricochet projectiles.

d. **Area A.** The area (secondary danger area) that parallels the impact area laterally. It is provided to contain fragments from items exploding or ricocheting on the right or left edge of the impact area.

e. **Area B.** The area (secondary danger area) on the downrange side of the impact area and Area A. It is designed to contain fragments from items exploding on the far edge of the impact area.

f. **Area C.** The area (secondary danger area) on the uprange side of the impact area and parallel to Area B. It is designed to contain fragments from items exploding at the near edge of the impact area (also referred to as the short limit of the target area).

g. **Area D.** The area between Area C and Area E. It is a safe area for troop occupation for training purposes.

h. **Area E.** The area between Area D and the firing position. It is endangered by muzzle debris, overpressure, and injurious noise levels. Area E may be occupied only by weapon crews firing from an approved tactical configuration (circular, box, star, etc.).

i. **Area F.** The area immediately to the rear of a weapon or group of weapons. It is endangered by the effects of the weapon being fired.

j. **Near edge.** The boundary of the impact area that borders Area C and is nearest to the firing position.

k. **Far edge.** The boundary of the impact area that borders Area B and is farthest from the firing position.

l. **Safe area.** An area within the surface danger zone in which exposed personnel or those under cover may be located and the probability of their being injured from the effects of a normally functioning weapon, projectile, warhead, or munition is minimal.

m. **Primary danger area.** An area in which a hazard is known to exist and in which no unprotected personnel or equipment are permitted since injury to such personnel or damage to equipment is probable.

n. **Secondary danger area.** An area normally added to a primary danger area to provide for containment of the effects of projectiles or warheads that may function on the edge of a primary danger area or to contain fragments. No unprotected personnel or equipment are permitted in this area since injury to personnel or damage to equipment is probable.

o. **Downrange.** All areas of the surface danger zone located beyond the target point or center of a target area for multiple targets.

RANGE CONTROL SOP

p. Uprange. All areas of the surface danger zone located between the firing position and the target point or center of a target area for multiple targets.

q. Rear range. The area to the rear of the firing position.

r. Right range. The uprange and downrange portion of the surface danger zone located to the right of the line of fire for a single weapon to a target point or the line of fire for a single weapon to a target point or the line of fire drawn from the center of a group of weapons to the center of the target area for multiple targets.

s. Left range. Same as right range, only left of the line of fire.

Survey Control Point - A permanent or semi-permanent concrete or brass marker placed to denote a topographical reference point.

Tactical Landing Zone (TLZ) - A predesignated helicopter landing zone, usually named after a bird, which provides air and ground units a site for helicopter operations.

Temporary Interruption (of the Intracoastal Waterway) - The blocking of traffic on the Intracoastal Waterway due to training exercises for periods of a few minutes to a few hours.

Toxic Agent - Poisonous agents which are capable of causing physiological injury.

Training Area (TA) - An area designated alphabetically by two letters in which training exercises using blank ammunition, certain pyrotechnics and limited demolitions may be conducted with authorization. A subdivision of maneuver area, i.e., FA, HC, MB, etc.

Training Facility - A structure, range or area specifically designed for military training.

Unserviceable Ammunition - Ammunition beyond its life expectancy or which fails to respond as its designer intended. May be a single round or a complete ammunition lot.

Verona Loop - A complex of training facilities located west of New River.

Verona Loop Guard - The guard established to control the access of personnel and equipment into the Verona Loop area.

Warning Area - An airspace similar to a restricted area, (hazard to flight or navigation), except that a warning area is located outside the continental limits of the United States. Penetration of a warning area during periods of activity may be extremely hazardous to the pilot, aircraft, and passenger. Warning areas are established to permit military maneuvers and firing in certain offshore areas as a necessary feature of combat training. Changes in warning areas are made in the same manner as changes to restricted areas.

Weekly Firing Notice - Notice published weekly by Range Control which contains all authorized firing for the week. It is divided into two sections, one for firing involving the use of air or sea space and one not involving the use of air or sea space.

Wet Bulb Globe Temperature (WBGT) - A rating of temperature and humidity as it affects personnel. Intensity of human exertion must be reduced as the WBGT reaches specific levels.

RANGE CONTROL SOP

APPENDIX B

DESCRIPTION OF RANGES

Range: A-1

Description: Pistol and Shotgun Range.

Location: GC 790443, DOF 2700 mils/152 degrees

Weapons: Service pistols and shotguns

Ammunition: Service

Targets: 10 manually operated targets at 15, 25 and 50 yards.

Communication: Telephone jack (6254); read section 4005, this Manual.

Special Instructions: Range guard is posted near the firing line. Read chapter 4, this order. Coordination must also be done through the CO, Marine Corps Service Support School. Helmets and flak jackets are not required during pistol firing. MCAS New River must be notified when this range is hot. Ensure New River warning signs are in place. Notify BLACKBURN before going hot or cold.

RANGE CONTROL SOP

Range: B-12

Description: Pistol and Shotgun Range.

Location: GC 743449, DOF 3022 mils/170 degrees

Weapons: Service pistols and shotguns

Ammunition: Service

Targets: 10 manually operated targets at 15 and 25 yards

Communication: Dial telephone (0180); read section 4005, this Manual.

Special Instructions: Scarlet streamers are flown at the top of the butts and at the firing line. Helmets and flak jackets are not required during pistol firing. Range is open daily 0900-1700. Read chapter 4, this order. Road to left of firing line and range must be blocked to prevent entry during firing. Notify BLACKBURN before going hot or cold.

RANGE CONTROL SOP

Range: B-14

Description: Assault of Fortified Position

Location: GC 734425, DOF 0885 mils/50 degrees

Weapons: Service rifles, M-60 machine gun, M72 rocket launcher and SAW.

Ammunition: Blanks and the M73 sub-caliber for the M72 rocket launcher. Demolition, no more than 1/4 lb TNT equivalency. Smoke hand grenades.

Targets: 2 earthen bunkers and 13 demolition pits.

Communication: Read section 4005, this Manual.

Special Instructions: Barricades must be installed in the back blast area and on vehicle approaches into the impact area. Two RSO's are required: one moves with the maneuver element, the other is responsible for overall safety. Due to the proximity of this range to the air traffic pattern at New River, no ordnance may be delivered above 50 feet. Hand-held illum will be directed to the north, northwest. Blast debris from demolitions is also restricted to less than 50 feet. M73 will be fired only from designated positions at the earthen bunkers; not at concrete bunkers. All charges must be detonated prior to personnel entering the immediate area. Chemical fire extinguishers must be on hand. Read chapter 4, this Manual. EOD sweep is required after sub-caliber firing. OIC arranges this through Range Control.

RANGE CONTROL SOP

Range: D-6

Description: Indoor Small Bore Range

Location: Building 451

Weapons: Small bore/sub cal up to 9mm/.45 cal.

Ammunition: Service

Targets: Various small bore and subcaliber targets.

Communication: Dial telephone (3738); read section 4005 , this Manual.

Special Instructions: Although the primary user is 2d MarDiv, LAV Bn, scheduling and range operation must comply with this Manual. Inform BLACKBURN before going hot or cold. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: D-9

Description: Skeet Range

Location: GC 855397, 500 mils/28 degrees

Weapons: Shotgun

Ammunition: As authorized by Range Operator (no slugs or shots larger than #2's).

Targets: Stationary and skeet

Communication: Dial telephone (3889); read section 4005, this Manual.

Special Instructions: Scarlet streamer and range guard are positioned at the entrance of range area. Range is operated by Base Special Services in compliance with safety requirements of this Manual. Range will not operate during helo ops in LZ SPARROW. Inform BLACKBURN before going hot or cold. Helmets and flak jackets are not required during recreational firing.

RANGE CONTROL SOP

Range: D-29

Description: Rifle and Pistol Range

Location: GC839381, DOF 4347 mils/245 degrees

Weapons: Service rifles, pistols and shotguns

Ammunition: Service

Targets: 56 rifle targets at 15 yards; 16 manually operated pistol targets at 15 and 25 yards. Range Control provides a range operator and targets, but units must supply their own "C" course targets.

Communication: Dial telephone (2002); read section 4005, this Manual.

Special Instructions: Ensure scarlet streamers are flown at the range entrance and from the easternly shore of New River at GC 840382 and GC 852366 one hour prior to firing until termination. A range guard is positioned in the range tower to give warning when boats or aircraft approach the danger zone. Helmets and flak jackets do not have to be worn during pistol firing. Read chapter 4, this Manual

RANGE CONTROL SOP

Range: D-30

Description: Rifle and Pistol Range

Location: GC851367, DOF 3860 mils/217 degrees

Weapons: Service rifles and pistols

Ammunition: Service

Targets: 46 rifle targets at 15 and 25 yards; 15 manually operated targets at 15 and 25 yards. Range Control provides a range operator and targets, but units must supply their own "C" course targets.

Communication: Dial telephone (2009); read section 4005, this Manual.

Special Instructions: Post a range guard in the range tower prior to firing to give warning of boats or aircraft approaching the danger area. Scarlet streamers are flown at the range entrance and on the berm of the range and from the easternly shore of New River at GC 840382 and GC 852366 one hour prior to firing until termination. Helmets and flak jackets do not have to be worn during pistol firing. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: E-1

Description: Hawk, Stinger, and Redeye SAM Range.

Location: GS 8824 running northeast along Onslow Beach to Riseley Pier

Weapons: Surface to air missiles

Targets: Drone aircraft provided by using unit.

Range Limits: Right flank coordinates - 880246 Azimuth 185° (grid)
Left flank coordinates - 899260 Azimuth 85° (grid)

Communication: Dial telephone (7425) at Onslow South Tower; read section 4005, this Manual.

Special Instructions: Unit must have (besides OIC & RSO) a senior missile director, assistant missile director, visual observers and range guards. All personnel will follow procedures in accordance with the published SOP for missile firing at Onslow Beach/Range E-1. Scarlet streamers are flown from flag poles at Onslow South Tower, Beach Road adjacent to Riseley Pier and at the U.S. Coast Guard Boat Station, Bogue Inlet, Swansboro, N.C. Observers posted at Onslow South Tower are to be equipped with binoculars. Range guards posted at Beach Road and on the beach adjacent to Riseley Pier will permit passage of authorized personnel only upon notification and approval of the OIC. Firing will CEASE if a boat or aircraft enters the missile hazard area. Using unit is required to obtain clearance of W-122 or portions thereof.

RANGE CONTROL SOP

14

Range: F-2

Description: Field firing range (fire team and squad tactics)

Location: GC907427, DOF 3402 mils/191 degrees

Weapons: Service rifles, pistols and shotguns

Ammunition: Service and smoke hand grenades

Targets: Silhouettes and improvised targets

Communication: Telephone jack (2007); read section 4006, this order.

Special Instructions: This range shares a common impact, therefore, do not advance further than 900 meters from the firing line. No movement downrange is permitted when F-4 or F-5 are being used. The range guard and scarlet streamer are posted at the range entrance off Hwy 24. Vehicular movement down range is restricted to existing roads. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: F-3

Description: Field Firing Range

Location: GC939379, DOF 5229 mils/294 degrees

Weapons: Service rifles, M60 and Saw machine guns, shotguns, pistols, M73 rocket launcher, and 1/4 lb DML.

Ammunition: Service (M73 sub-cal)

Targets: Stationary tank hulls and other targets arranged by the using unit.

Communication: Telephone jack(2001) is available; read section 4005, this Manual.

Special Instructions: This range shares a common impact area, therefore, do not advance further than 900 meters from the firing line. Scarlet streamer (red flashing light when in night use) and range guard or barrier are positioned at each flank entrance to the range. All night firing needs the approval of the RCO, specifying the type of illumination to be use. Read chapter 4, this Manual. Range barriers are available from Range Control for emplacement on the tank trails in front of the range at grids 936377 and 940380. After M73 use, an EOD sweep is required prior to subsequent use for fire maneuver.

RANGE CONTROL SOP

Range: F-4

Description: Fire Control Range. Read chapter 3, this Manual.

Location: GC918421, DOF 3550 mils/200 degrees.

Weapons: Service rifles, pistols, SAW and shotguns.

Ammunition: Service and smoke grenades.

Targets: Ten electro-mechanical "pop-up" targets; two artillery and one machine gun simulators.

Communication: Dial telephone (2007) is available; read section 4005.

Special Instructions: This range shares a common impact area, therefore, do not advance further than 900 meters down range and no maneuvering is allowed when Ranges F-2 or F-5 are firing. A range operator is provided by Range Control. A scarlet streamer is flown at the entrance road from Hwy 24, GC 921428 (position your range guard there). Install road blocks on Smith Road at GC 923413 and GC 913421. Boundaries are marked by white posts in addition to the standard down range markers. Personnel will remain within the boundaries at all times. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: F-5

Description: Military Police Pistol Range

Location: GC909426, DOF 3673 mils/207 degrees

Weapons: Service rifles, pistols and shotguns

Ammunition: Service

Targets: Standard pistol and shotgun targets, and "pop-up" targets to be placed in a combat configuration. Coordinate with RSS.

Communication: Telephone jack (2007) is available; read section 4005.

Special Instructions: As well as Marine Corps units, law enforcement firearms training will be conducted by civilian law enforcement agencies, when hosted by PMO under the approval of the Range Control Officer. This range shares a common impact area therefore no one will advance downrange without the approval of the OIC of firing. Before firing commences, the OIC will display a scarlet streamer from the entrance at Highway 24. Helmets and flak jackets are not required during pistol firing. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: F-6

Description: Hand Grenade Range with a practice area

Location: GC 876381

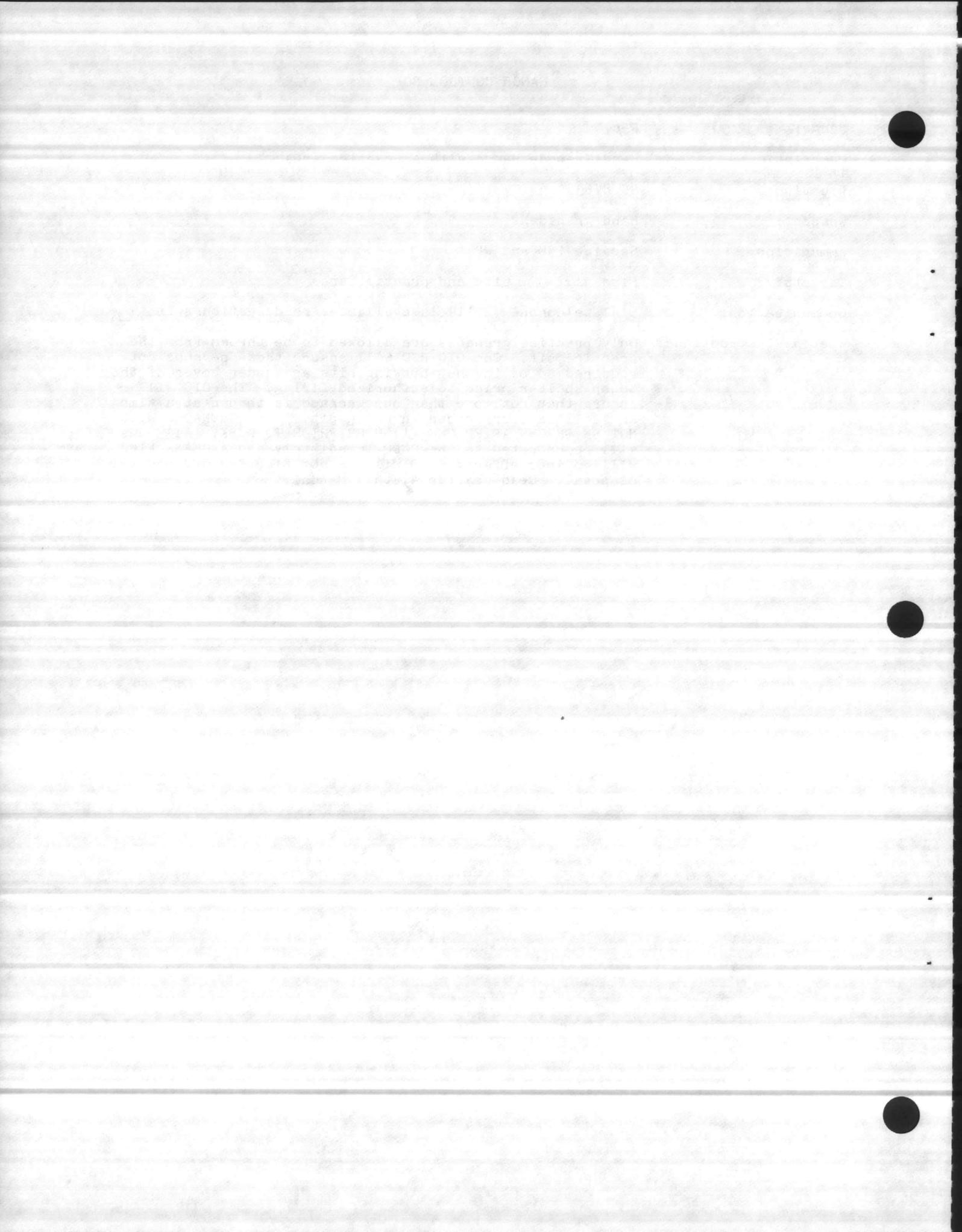
Weapons: Hand grenades

Ammunition: Service (HE and WP)

Targets: Five throwing pits and practice area

Communication: Dial telephone (2011) is available; read section 4005.

Special Instructions: Only practice grenades are allowed to be thrown from the practice pit. The OIC/RSO will ensure those persons not required to be in the throwing pits are under cover of the troop shelter prior to authorized firing. The OIC will insure that not more than one grenade is thrown at a time and utilize every other throwing pit. HAND GRENADES WILL NOT BE THROWN AFTER ONE (1) HOUR PRIOR TO DUSK. All duds will be reported to the RCDO immediately and a CEASE FIRE will go into effect. EOD will be notified for dud removal/disposal. Read chapter 4, this Manual.



RANGE CONTROL SOP

Range: F-11

Description: Rifle and Pistol Range

Location: GC869394, DOF 1749 mils/98 degrees

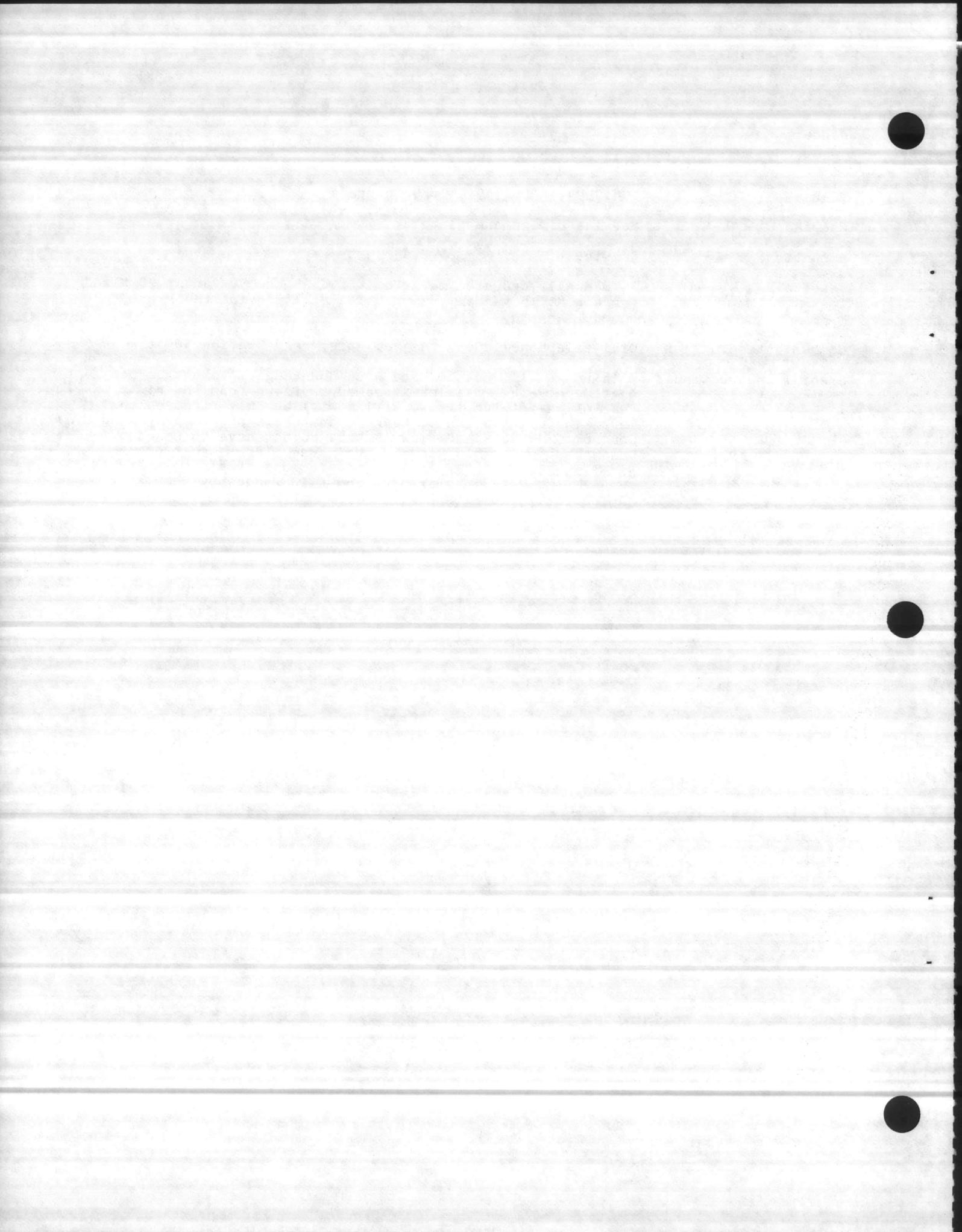
Weapons: Service rifles and pistols

Ammunition: Service

Targets: 15 manually operated targets at 15, 25 and 50 yards; 22 fixed targets at 15 yards. Using units will provide their own "C" course targets.

Communication: Dial telephone (2005) is available; read section 4005.

Special Instructions: This range will not be used when downrange movement is conducted on F-18. Scarlet streamer is flown from the right rear of the firing line. Rifles will be only fired on the left side of this range. Range operator is provided by Range Control. Helmets and flak jackets do not have to be worn. Read chapter 4, this Manual. When used for recreational shooting, .22 caliber rifles and handguns of all calibers are authorized. FA maneuver area and F-18 range may be utilized during recreational shooting.



RANGE CONTROL SOP

Range: F-17

Description: Dry Net Training

Location: GC885385

Weapons: Service, organic

Ammunition: Blanks only

Communication: Telephone jack (2011) is available; read section 4005.

Special Instructions: No live fire is authorized on this range. Enter range from Sneads Ferry Road. Fly scarlet streamer from pole at range entrance. Check in/out with Range Control.



RANGE CONTROL SOP

Range: F-18

Description: Night Field Firing and Artillery Sub-Caliber Range (designed to teach night firing techniques at varying distances and to train FO and FDC artillery personnel)

Location: GC 871392, DOF 1364 mils/78 degrees

Weapons: Service rifles and the 14.5 artillery sub-caliber

Targets: Twelve electro-mechanical "pop-up" targets, each illuminated by a white light positioned at 50, 75 and 100 yards.

Communication: Dial telephone (2004) is available; read section 4005.

Special Instructions: Range Control will provide a range operator. Down range movement is not permitted except for artillery sub-caliber firing. During night usage, roadblocks must be established on Sneads Ferry Road (GC871392 and GC871393 north and south flanks). Both range limits will be illuminated while night training exercises are in progress, but are NOT to be used as targets. Read chapter 4 of this Manual.

RANGE CONTROL SOP

Range: L-5

Description: This range is designed to teach advanced tactics at the squad, platoon and company level through fire and maneuver.

Location: GS735309, DOF: Phase 1 0154 mils/9 degrees
Phase 2 0500 mils/28 degrees
Phase 3 0780 mils/44 degrees

Weapons: Service rifles, pistols, M60 machine gun, SAW, shot gun

Ammunition: Service, but no armor piercing rounds

Targets: Hard wired and SARTS targets

Communication: A telephone jack (7187) is available; read section 4005, this Manual.

Special Instructions: Obtain, read and follow the special L-5 Training Scenario and SDZ charts (Range Services and Support). It consists of three objectives within a fire and maneuver area approximately 850 meters in depth for company level training. Added realism is obtained through the use of ten machine gun simulators and fifteen artillery and mortar simulators. Range Control will install, service and maintain all training devices. Range Control will also position operators at control towers #1 and #2 for the purpose of operating training devices in such sequence as the OIC may direct. Fly the scarlet streamer from the flagpole at the entrance from Dixon Road. Ensure the range barriers/signs are in place at GC742351, 758349, 728326, and 729324. Position range guard at the entrance from Dixon Road and trail junction entrance at 737302, prior to firing. The sentry will block all traffic attempting to enter the trail. Road blocks will be positioned on range road entrance to tower #1 to channel all incoming traffic directly to the line of departure. Prior to the commencement of fire, the OIC/RSO will conduct a downrange inspection to the limit of advances line to insure participating troops or trespassers are clear of the area. Five minutes prior to the beginning of training, a warning siren will be sounded twice for five (5) seconds each to alert personnel in the towers and participants. Thereafter, the siren will be used to signal "CEASE FIRING". A "fire limit" line is placed across the direction of attack 300 meters down range from tower #2. Live fire will be terminated prior to crossing the "fire limit line."

CAUTION - Tower #2 is inside the range fan. Operating and control personnel will be positioned prior to live firing and instructed to remain inside the armored control booth until authorized to leave. Firing by a unit performing an envelopment is strictly forbidden.

SCHEDULING - Due to assets required for L-5, the range must be closed for maintenance one day prior to each use (usually Mondays). Recommend that Fridays be used for squad or fire team training only. The range will be checked out for three (3) days at a time (i.e., Tuesday, Wednesday and Thursday). Read chapter 4 this Manual.

RANGE CONTROL SOP

Range: G-3

Description: Infantry Weapons Range

Location: GC898344, DOF 1335 mils/75 degrees; TOW DOF 997-1157 mils/55-65 degrees

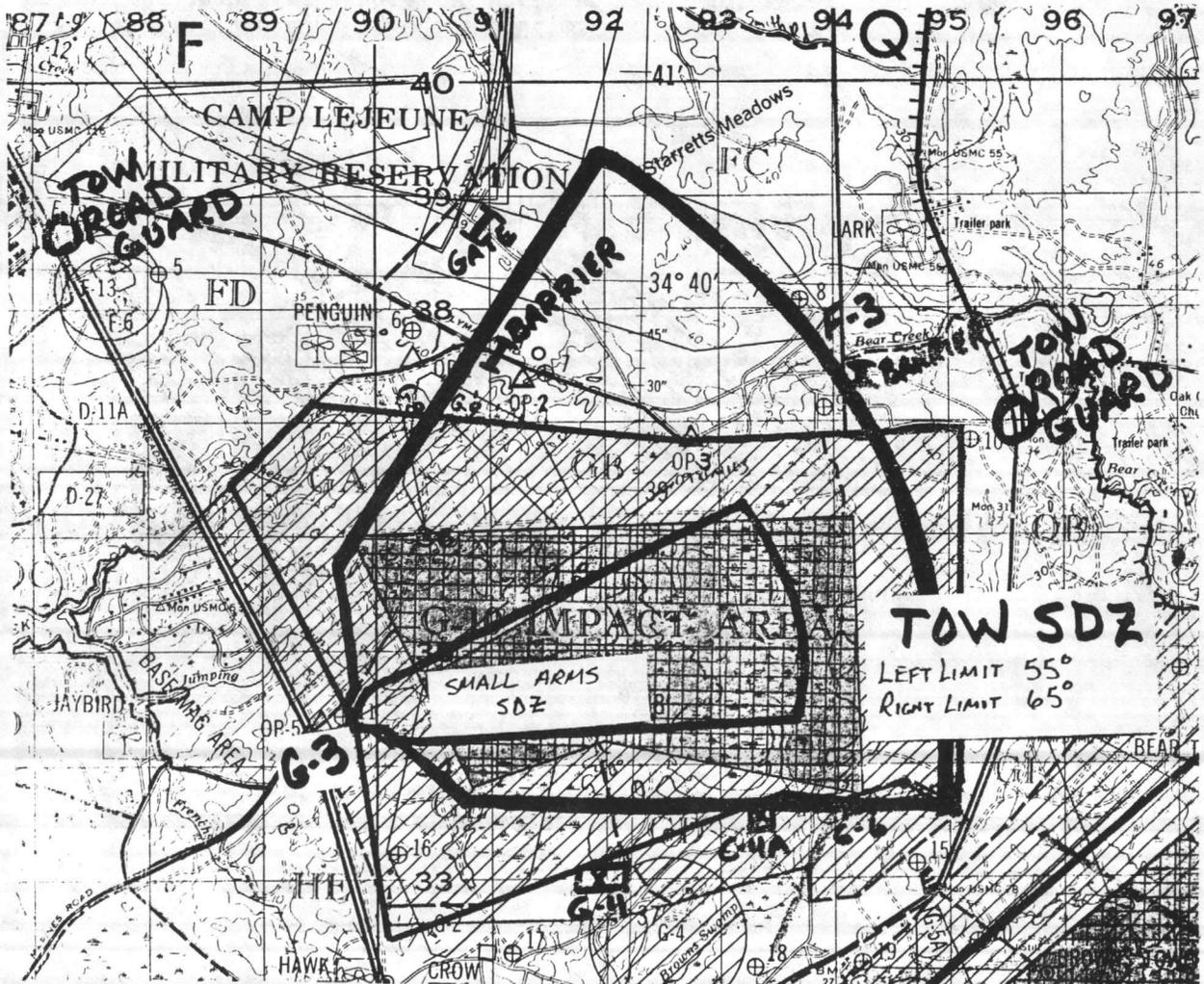
Weapons: All infantry weapons except .50 cal; 106MM recoilless rifle, and hand grenades.

Targets: Improvised targets at varying distances.

Ammunition: Service

Communication: Telephone jack at OP-5 (1431); read section 4005 this Manual.

Special Instructions: RSO will insure the minimum ranges of all weapons comply with safety criteria for the system. No down range movement is permitted unless accompanied by EOD personnel. TOW firing at G-3 requires the closure of Lyman Road, TWSEAS, OP-2, OP-3, and no maneuvering on range F-3 (F-3 road guard must also move to the F-3 firing line during the TOW shoot). Read chapter 4, this Manual. Pre-sweep of Lyman Road and road guards required. See Range Control for prescribed checklist for G-3.



RANGE CONTROL SOP

Range: G-3A

Description: M257 Smoke Grenade Launcher System Range

Location: From GC 985351 along Track Vehicle Trail to GC 892357, DOF within SDZ.

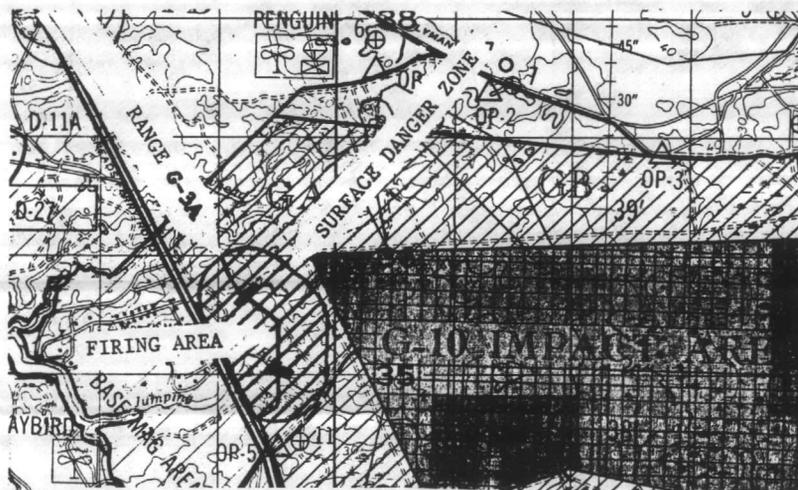
Weapons: M257 Smoke Grenade Launcher System (SGLS)

Targets: None

Ammunition: Service

Communication: Telephone jack at OP-5 (1431); read section 4005 of this Manual.

Special Instructions: Scarlet streamer and range guard are positioned at GC 89493440. Personnel in vehicles equipped with the M257 SGLS will be inside of the vehicle with all hatches secured when firing. No downrange movement outside of the vehicle equipped with M257 SGLS is permitted unless accompanied by EOD personnel. Positive comm required between OIC/RSO - range guards - firing vehicle; in addition to OIC/RSO - RCDO. Ensure road block/gate at GC 89003601 is closed before going hot. Personnel not in armor - protected vehicle with protected vehicles with all hatches secured (e.g., on foot, in jeeps or trucks) may enter the range area only with permission of RCO and under EOD escort.



FIRING AREAS FOR M257 SMOKE GRENADE LAUNCHER SYSTEM (SGLS)

RANGE CONTROL SOP

Range: G-4

Description: Demolition Range (2d CEB)

Location: GC 926327

Weapons Linear rockets, M68A1 (inert) charge and land mines not to exceed a charge of 50 lbs net TNT equivalency per shot.

Ammunition: Service; read section 4000.

Communication: Telephone jack (3986) is available; read section 4005.

Special Instructions: Scarlet streamer and range guard are positioned at GC 912323. Appropriate precautions must be taken to guard against accidental detonation of electrical blasting caps by extraneous electricity. Request to detonate over 50 lbs of TNT equivalency must be approved by the RCO. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: G-4A

Description: EOD Range

Location: GC 933335

Ammunition: Disposal of unserviceable ammunition, training, disassembly/
inerting of ordnance, and testing of small arms ammunition.

Communication: Telephone jack (3986) is available; read section 4005.

Special Instructions: Fly a scarlet streamer and maintain barricades on all roads
leading into the disposal site while in use. Sound a 10 second
warning siren one (1) minute before each shot. Access to the
range is controlled by Base EOD and MAG-29 EOD teams and 2d
FSSG Platoon. EOD personnel may destroy unserviceable ammuni-
tion or hazardous ordnances from 0001-2400 daily. Read chapter
4, this Manual.

RANGE CONTROL SOP

Range: G-5

Description: Mechanized Tank, and LAV Gunnery Range

Location: GC 942321, DOF 2449/138 degrees

Weapons: 105MM tank main gun; machine guns (includes vehicle mounted); M16; 25mm cannon; TOW; and artillery (direct fire).

Ammunition: Service (read section 4004). No high velocity rounds exceeding 25,000 yards seaward.

Targets: Mechanized operated tank targets, SARTS, and improvised hulls.

Communication: Telephone capabilities are available at the range building (7438); Bear Creek Tower (1740), Onslow North Tower (7441). Internal radio communication will be established between the OIC, safety towers, firing line, road guards, and guard boats, radio frequency 38.45 FM. Read section 4005 this order. A total of six (6) radios; five (5) for internal communication requirements and one (1) for "BLACKBURN."

Special Instructions: In addition to the RSO(s), the OIC will appoint position safety officers as required and four (4) range guards equipped with radios (read chapter 4, this Manual).

- a. One hour prior to commencing fire until termination fly scarlet streamer during daylight hours, display red flashing light from sunset until sunrise at flagpoles and on top of the range towers:
 - (1) Bear Creek Tower.
 - (2) Onslow Beach North Tower.
 - (3) Main entrance to range G-5.
 - (4) Flag pole located at U.S. Coast Guard Life Boat Station, Bogue Inlet, Swansboro, North Carolina.
- b. Range guards posted on towers will be equipped with binoculars and radios. Sectors of observation are:
 - (1) Bear Creek Tower Guard: 65°M to 190°M.
 - (2) Onslow Beach North Guard: 55°M to 270°M.
- c. Range guards will be instructed to call/sound siren as notification to the officer in charge of firing before a vessel or aircraft penetrates the danger area as shown on the range fan overlay. Sentries will also be directed to raise and lower streamers/flashing lights at the required times.
- d. The using unit will insure that search is made of the impact area, Intracoastal Waterway, marshes, dunes, and ocean areas within the surface danger area one-half hour prior to firing to insure that the areas are safe for firing. Range Control will schedule a helicopter for the using unit.
- e. Using units will post tower guards one-half hour prior to aerial search.

RANGE CONTROL SOP

f. Range Control will provide guard boats to be positioned in the waterway near Bear Creek and Freeman Creek to control boat traffic during periods of firing. If at any time the boat crew's coxswain determines weather conditions in the Intracoastal Waterway are hazardous to the safety of his/her craft, the coxswain will contact the OIC/RSO and the RCDO.

g. Using units will register illumination rounds in the downrange sector of the Waterway prior to commencing night firing. A supply of illumination rounds will be maintained at the gun position for illumination of downrange sector. Tank units may use searchlights both visible and IR mode.

h. Firing will cease if streamers or flashing lights are lowered or extinguished for any reason.

i. Projectiles will not be fired to impact within 200 yards of the Intracoastal Waterway.

j. Contact relief of tower guards. After the first range sweep for the day has been completed and tower guards have been posted, other units authorized to use Range G-5 during later periods of the same day are urged to effect contact reliefs of tower guards. Otherwise, subsequent range sweeps will be required prior to resumption of fire.

k. Round containing explosive fillers will not be fired from the rear positions (closest to range tower) on the G-5 Range. Explosive filler rounds will only be fired at Brown's Island.

l. Downrange movement is strictly prohibited unless accompanied by EOD personnel.

m. Range Control personnel will operate the mechanized moveable targets.

n. This range cannot be utilized when G-6 is firing. See Range Control for prescribed checklist for G-5.

RANGE CONTROL SOP

Range: G-6

Description: Tank Gunnery Range for Tables 1-8 (Modified Table 9) and LAV.

Location: GC942336, DOF 2850 mils/160 degrees.

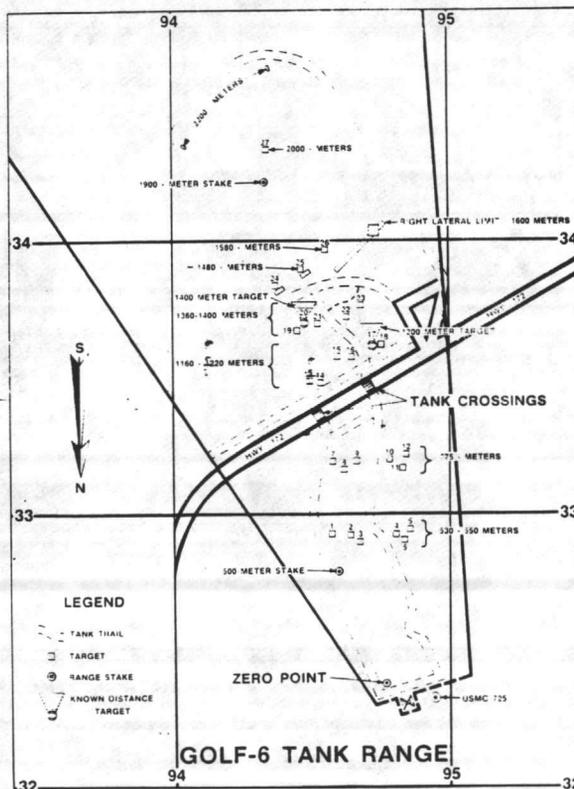
Weapons: 105MM tank main gun, artillery (direct fire) machine guns (includes vehicle mounted), M16, 25mm cannon, TOW.

Ammunition: Service (read section 4015). No high velocity rounds exceeding 25,000 yards seaward.

Targets: Mechanized operated tank targets, SARTS, and improvised hulls.

Communication: Same instructions as G-5 (excluding phone at G-5) with two additional radios for the two roads guards stationed on RT 172 at GC937323 and 950331 (total of eight radios are required). Telephone jack (1895) is available; read section 4006, this Order.

Special Instructions: Same as G-5 with additional road guards stationed on Rt 172 to detour traffic around the area. The road guards will stop all vehicles, tell the drivers to follow the detour signs. Road guards will be positioned on Rt 172 near the Triangle Outpost entrance (GC 9560 3665) and near the road intersection of Rt 172 and Sneads Ferry Road (GC 9075 3040) and at GC 935320 and 952335. This range will not be utilized when Range G-5 is firing. Read chapter 4, this Manual. The using unit will visually inspect Route 172 (road surface, shoulders, and ditches) immediately upon completion of firing for duds. If a dud is found it will not be handled, but immediately reported to the RCDO who will inform EOD. The range will not be considered "cold" until completion of Route 172 sweep has been reported to the RCDO. However, upon completion of actual firing, the Navy Boat Crew may be secured by the RCDO."



RANGE CONTROL SOP

Range: G-7

Description: Tank and LAV Gunnery Range

Location: GC 959342, DOF 2598 mils/146 degrees

Weapons: Tank 105MM main gun, field artillery (direct fire), machine guns (includes vehicle mounted), 25MM cannon

Ammunition: Service (read section 4015), except high velocity projectiles exceeding 25,000 yards seaward.

Communication: Dial telephone is available at Onslow North Tower (7441), Bear Creek Tower (1740) and the range tower (3258). Internal land line communication will be established and maintained between the OIC, safety towers, road guards and the firing line. Read section 4006, this Order.

Special Instructions: Same as G-5 except the range guard will be placed at the entrance to G-7 and not at G-5. Read chapter 4, this Order. See Range Control for prescribed checklist for G-7.

RANGE CONTROL SOP

Range: G-8

Description: M203 Grenade Launcher Range

Location: GC901373, DOF 2914 mils/164 degrees

Weapons: M203 and MK19 grenade launcher

Ammunition: 40MM, service

Targets: Armor hulls and improvised targets

Communication: Dial telephone (2013); read section 4005 this Manual.

Special Instruction: This is a fixed firing range. No downrange movement is authorized. No attempt will be made to mark duds. Upon completion of firing the OIC will ensure the number and approximate location of the duds are reported to the RCDO. Any dud determined to be a hazard to further firing by the OIC will be immediately reported to the RCDO. Unexploded practice rounds are considered duds. Only EOD personnel are allowed downrange. All personnel, except OIC and other safety personnel not actively engaged in actual firing will remain to the rear of the firing line. All unused ammunition will be returned to the issue point. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: G-9

Description: LAAW and SMAW Range

Location: GC903374, DOF 2853 mils/161 degrees

Weapons: M72, rocket launcher and SMAW

Ammunition: Service M73 sub-caliber

Targets: Armor hulls and improvised targets

Communication: Dial telephone (2013); read section 4005 , this Manual.

Special Instructions: Personnel not actually engaged in firing other than the OIC and designated personnel, will remain clear and to the rear of the firing line. Range guard will be posted on both flanks of the range entrance. All unused ammunition will be returned to the issue point. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: G-10 Impact Area

Description: Bombing and Target Range

Location: GS 8936-9535-9433-9032 (See Camp Lejeune Special Map, Appendix K), read chapter 2, this Manual.

Weapons: Fixed Wing Aircraft utilizing the IP's and run in headings contained in this Manual.

- MK 76 and MK 80 series inert bombs
- 2.75 rockets, HE, WP, and practice delivered at 20 degrees or greater dive angle
- 20mm, 25mm, 30mm delivered at 20 degree or greater dive angle
- MK 81 and MK 82 not authorized

Rotary Wing Aircraft

- 2.75 rockets, HE, WP, and practice at 20 degree or greater dive angle
- 7.62 aerial gunnery
- 20mm at 20 degree or greater dive angle

Artillery - All types

Mortars - All types

Ground Weapons - Same as ranges G-3,8, and 9

Ammunition: Artillery - HE, WP, Illum, SMK

Mortars - HE, WP, Illum

Ground - 5.56, 7.62, 40mm, 25mm

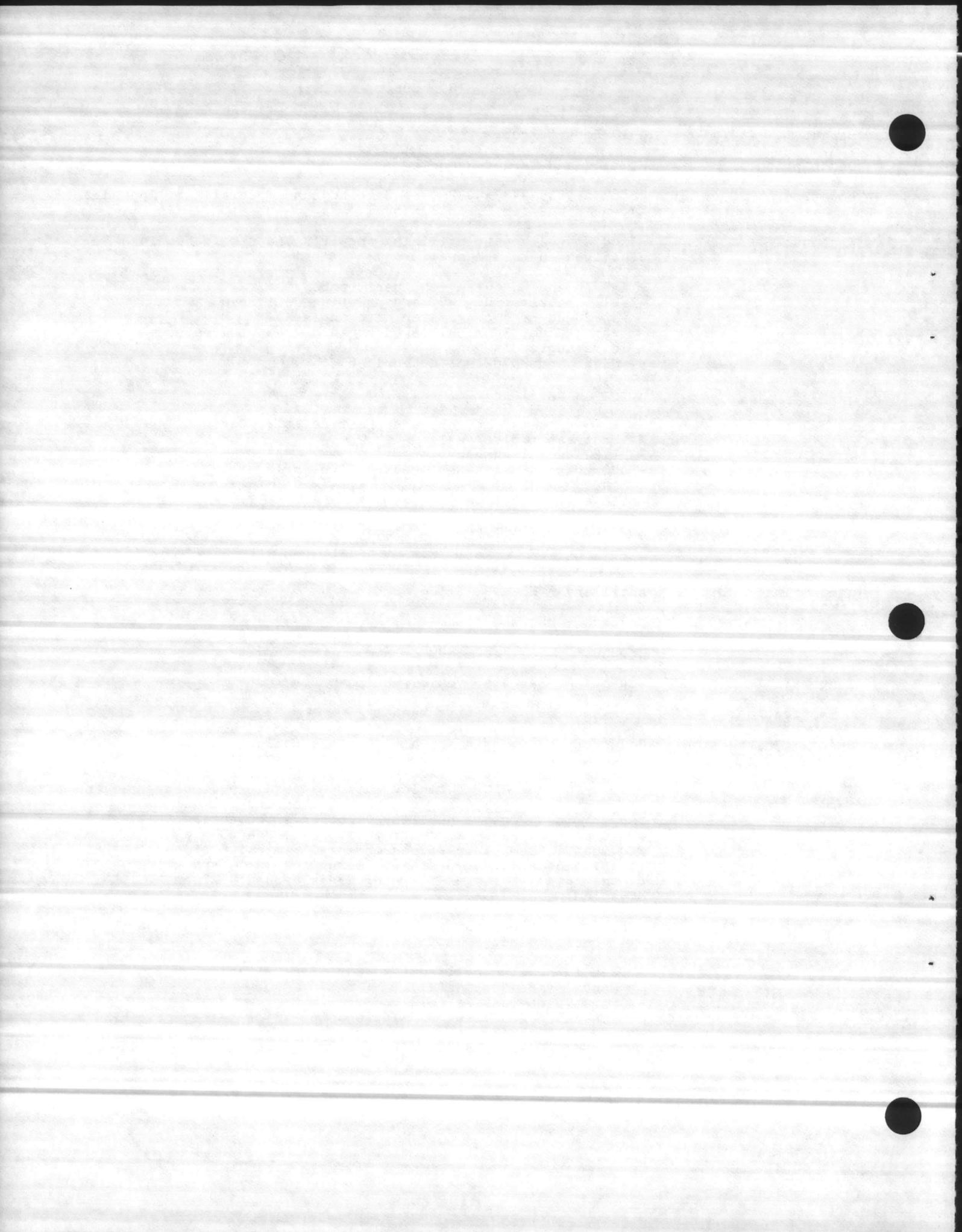
Targets: Improvised targets, vehicle hulls

Communication: Read section 4005, this Manual

Special Instructions: Read chapter 4, this Manual. See the following diagram for special instructions pertaining to artillery/indirect firing into G-10. When firing into G-10, the OIC of firing must post radio equipped air sentries capable of observing the entire gun target line. This capability to observe the entire SDZ also applies to aircraft delivered ordnance. A FAC must inform aircraft performing CAS mission of the location of each gun position firing into G-10 and which of the adjacent ranges/training areas around G-10 are occupied.

When aircraft are using RABFAC the following instruction will be followed:

- Run in heading will comply with those established in Manual (see 4013.3a(9)).
- First pass must be cold
- Mandatory read back by aircrews to FAC of beacon brief
- B/N must monitor the aircraft systems actual altitude during run-in phase.



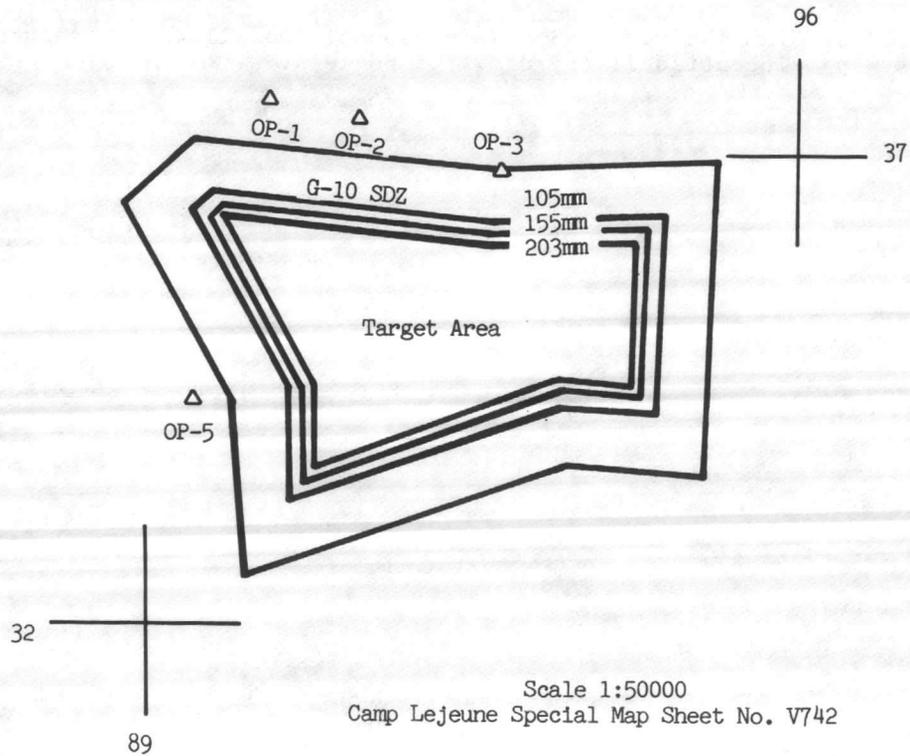
RANGE CONTROL SOP

G-10 Rotary Wing

- Rotary wing aircraft will utilize a west to east delivery pattern for firing 2.75" rockets and aerial gunnery (7.62mm only). The center of the lane will be at OP5 with right and left limits ending 250m on either side of the OP. Run in headings will be 70 degrees magnetic from the center of OP5. The start fire line is the berm used as the firing line for range G-3 and the cease fire line is the fire break, located 500m east of the firing line of range G-3. The area between OP5 and the range G-3 firing line will be used as a arm/dearm area for rotary wing aircraft and may be used for hover firing.

NOTE FOR SPECIAL INSTRUCTIONS: No personnel are allowed on ranges G-3 or G-6 during rotary wing aircraft delivery of 2.75" rockets.

RANGE CONTROL SOP
 G-10 INDIRECT FIRE RESTRICTIONS



Surface Danger Zone/
 Impact Area

Grid Reference

G-10 SDZ	From Grid 89473719 to 92733586 to 95123695 to 95003360 to 93503372 to 90103250 to 89923443 to 88743645 to 89473719.
G-10 203mm Impact Area	From Grid 89793629 to 92733599 to 94233603 to 94183451 to 93413458 to 90773364 to 90773456 to 89793629.
155mm Impact Area	From Grid 89763642 to 92693610 to 94343616 to 94283440 to 93433448 to 90703350 to 90723451 to 89663632 to 89763642.
105mm Impact Area	From Grid 89683658 to 92723626 to 94543634 to 94473421 to 93403429 to 90583328 to 90513450 to 89453636 to 89683658.

RANGE CONTROL SOP

Range: G-10A

Description: EOD Disposal Site

Location: GS 9135

Ammunition: See the current edition of BO 8072.2E and read section 4010, this Manual.

Communication: Read section 4005, this Manual.

Special Instructions: This area is only authorized to 2d FSSG EOD Platoon, Base and MAG 29 EOD teams. A warning siren must be sounded for 10 seconds one minute before detonation. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: I-1

Description: Pistol and Shotgun Range

Location: GC 842276, DOF 1983 mils/112 degrees

Weapons: Service pistols and shotguns

Ammunition: Service

Targets: Sixteen (16) fixed targets at 15 and 25 yards

Communication: A dial telephone (7328) is available. Read section 4005, this Manual.

Special Instruction: Read Area the current edition of MCAS O 11102.1. Firing will be conducted only when visibility exists between the firing line and Cedar Point GC 852258. Fly the scarlet streamer prior to firing until termination. Maintain range guard on tower while firing to warn the OIC of approach of water or airborne traffic. Range guard is to be equipped with binoculars to observe the area from 45°M - 220°M. Coordination must also be done through CO, Marine Corps Engineer School. Helmets and flak jackets are not required during pistol firing. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: I-2

Description: Demolition and Mine Instruction Range

Location: GC 845282

Weapons: Demolition, linear rockets, M68 A1(inert) and land mines

Ammunition: All ordnance not to exceed 50 lbs TNT equivalency per shot. Read section 4011, this Manual.

Communiton: Dial telephone (7328) is available. Read section 4005.

Special Instructions: Read the current edition of MCES Order 8020.1. Fly scarlet streamer at entrance road to range while firing. OIC must be able to visually verify that Traps Bay is clear prior to firing the inert line charge, also take appropriate precautions to guard against accidental detonation of electric blasting caps by extraneous electricity. This range is assigned to the Commanding Officer, Marine Corps Engineer School on a priority of the use basis. Other units, after scheduling this range with Range Control, contact the Commanding Officer, MCES for additional instructions. Read Chapter 4, this Manual.

Disto 7
SOP. B1

RANGE CONTROL SOP

Range: J-2

Description: Scaled Target Sub-Caliber Training Range for AAV's, Tanks, and LAV's

Location: GC 826305, DOF 5505 mils/310 degrees

Weapons: M16 .22 caliber rim firing device, Brewster device for 105mm tank gun, and sub-caliber devices for LAVs/AAVs.

Ammunition: Service (small arms)

Targets: Scaled "pop-up" targets and silhouette.

Communication: Dial telephone (7236); read section 4005, this Manual.

Special Instructions: Range Control will provide a range operator for the "pop-up" targets. The using unit will post a guard at the range entrance and a sentry at the water's edge (GC824314). The water sentry will have binoculars, radio communications with the OIC/RSO (a land line will suffice) and stay in defilade below the bank of New River until ordered out by the OIC/RSO. Firing will cease when a vessel enters the surface danger zone.

DISK-7
SOP. 131

RANGE CONTROL SOP

Range: K-2 Impact Area
Description: Bombing and Target Range
Location: GS 7833-7935-8135-8133 (See Camp Lejeune Special Map), read Chapter 2, this Manual.

Weapons: (1) Fixed Wing Aircraft utilizing the IP's and run-in heading contained in this Manual.
- MK76, MK80 series inert bombs only
(2) Rotary Wing Aircraft
- 7.62 Aerial Gunnery



Artillery - All Types

Mortars - All Types

Ground Weapons - Same as "K" numbered ranges.

Ammunition: Artillery - HE, WP, Illum, SMK
Mortars - HE, WP, Illum
Ground - 5.56, 7.62, 40mm, 25mm,
Dragons, SMAWS

Targets: Improvised targets, vehicle hulls

Communications: Read section 4005 this Manual.

Special Instructions: Read chapter 4, this Manual. See diagrams (B-38, B-39) for special instructions pertaining to artillery/ indirect firing into K-2. When firing artillery into K-2, the OIC of firing must post radio-equipped air/water sentries one hour prior to start of firing and/or prior to the conduct of the waterway range sweep by the Navy Boat Crew. Sentries will remain in the following positions throughout the conduct of fire into K-2 (daylight and low visibility):

Sentry 1 - Grid 857353 (10 foot tower, Maintenance Battalion, FSSG recreation area).

Sentry 2 - Grid 800307 (10 foot tower, southeast of Gillette Point).

Sentries will maintain continuous observation of the Stone Creek and Grey Point sectors of the New River. The K-2 range will be considered to be not cleared for firing if a small craft or aircraft is observed within the following sector of the New River:

- That portion of the New River between a line extending on an azimuth of 268 degrees (grid) from sentry 2 to the Foys Landing on the opposite shore of the New River. An eight foot by eight foot yellow sign has been erected by Range Control on the opposite shore to aid sentries in visualizing the above limit. Sentries will operate on the Range Control alternate net (Frequency 38.45), maintaining 30 minute radio checks with the RSO and Navy Boat Crews and will notify the RSO of any unsafe (or potentially unsafe) circumstance. While occupying the tower, sentries will activate the red rotating light installed thereon and hoist a red range flag as a warning to boats/aircraft on the New River.

RANGE CONTROL SOP

- When visibility conditions deteriorate to the point that a sentry can no longer observe the far shoreline of the New River and boat traffic on the waterway which may approach the SDZ, the low visibility dimensions for K-2 SDZ and impact areas will be used by the firing unit(s).
- Positions selected for firing into K-2 inhabited areas or the Base Mag area (i.e., firing units are restricted to the use of GP's 16 through 32 and 40 exclusive of GP 29/29A when firing from the east side of the New River into K-2). Firing from TLZ's Eagle and Cardinal into K-2 is not authorized at present due to an FAA imposed restriction.
- An RSO will be positioned at OP-6 (Grid 782355) to observe all fires into K-2.

This same capability to observe all of the SDZ applies to aircraft delivered ordnance. Additionally, prior to CAS (live or simulated) the FAC must inform each firing position/and each aircraft which ranges around K-2 are occupied.

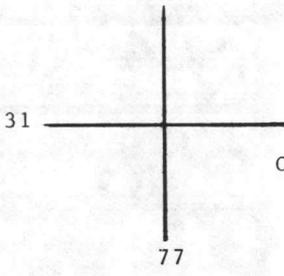
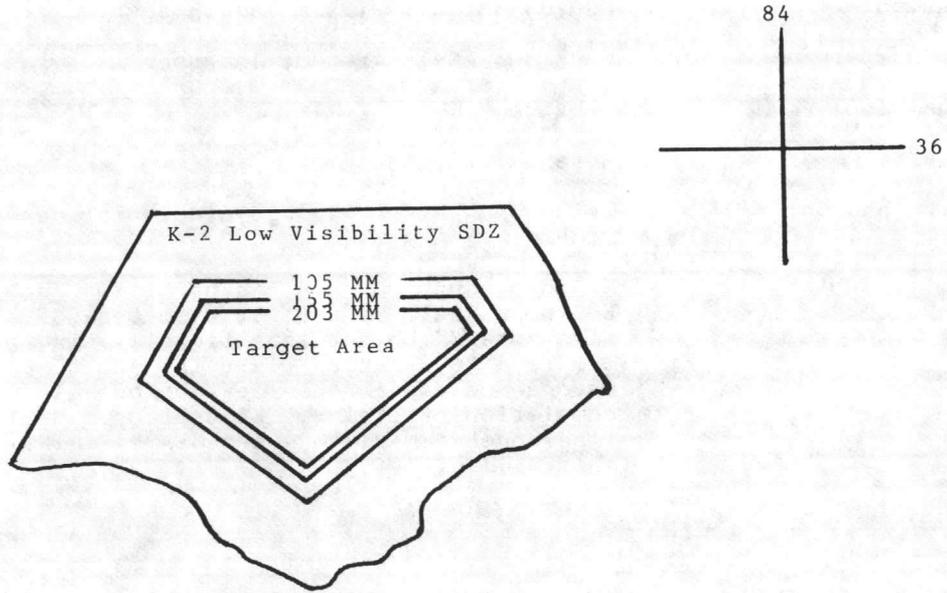
The following are now in effect for RABFAC missions at G-10, BT-3 and K-2 impact areas:

- Same headings as contained in this Manual.
- First pass must be cold.
- Mandatory read back by aircrew to FAC of beacon brief.
- B/N must monitor the aircraft systems actual altitude during run in phase.
- MK 76 and MK 80 series inert are only bombs authorized for RABFAC missions.

K-406A, 406B, and K-408 cannot be used if K-407 are being used. K-407 cannot be used if K-406, 406B, and K-408 are being used. The K-402 Fire and Maneuver range cannot be used if HE grenades and ball ammo are being used on the K-402 Search and Kill (Michelin City) range.

RANGE CONTROL SOP

K-2 LOW VISIBILITY SDZ



Scale 1:50000
Camp Lejeune Special Map Sheet No. V742

Surface Danger Zone/
Impact Area

Grid Reference

(Low Visibility) K-2 SDZ	From Grid 78703552 to 81703552 to 82113490 then south and west along the New River shoreline to 77503341 to 78703552.
K-2 <u>203mm</u> Impact Area	From Grid 79193468 to 81223468 to 81363450 to 80003337 to 78903419 to 79193468.
<u>155mm</u> Impact Area	From Grid 79143476 to 81283478 to 81493448 to 80003326 to 78803416 to 79143476.
<u>105mm</u> Impact Area	From Grid 79073494 to 81383495 to 81703446 to 80003306 to 78583412 to 79073494.

RANGE CONTROL SOP

Range: K-211

Description: M203 and MK-19 Grenade Launcher Range

Location: GC 783353, DOF 2725 mils/153 degrees

Weapons: M203 and MK-19 grenade launcher

Ammunition: Service

Targets: Material targets

Communication: Telephone jack (0155) is available; read section 4005, this Manual.

Special Instructions: No down range movement is permitted, unless accompanied with EOD personnel. The first 80 meters of this range is a "no fire zone." Do not intentionally fire any rounds that might create a "dud hazard" into the "no fire zone." The RSO will record and report the location of all duds to the RCDO after completion of firing. Report any duds impacting in the "no fire zone" immediately and CEASE FIRING. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-212

Description: Infiltration and Individual Movement Range

Location: GC 781353, DOF 2624 mils/148 degrees

Weapons: Service

Ammunition: Blanks only

Communications: Telephone jack (0752) is available; read section 4006, this Manual.

Special Instructions: One range operator is provided. Units are responsible for engineer support for emplacement of 1/4 lb demolition for the 32 demolitions pits. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-301

Description: LAAW and SMAW Range

Location: GC 788359, DOF 2654 mils/149 degrees

Weapons: M72, Rocket Launcher, 60mm/81mm mortars, and SMAW

Ammunition: Service ammunition SMAW and M73 sub-caliber, only practice and illumination rounds will be fired from 60mm/81mm mortars.

Targets: Armored hulls and improvised targets

Communication: Telephone jack (0155) is available; read section 4005, this Manual.

Special Instructions: Personnel not engaged in firing will remain in or to the rear of the bleachers. Direct firing downrange. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-302

Description: Field Firing and Battlesight Range

Location: GC 793359, DOF 3277 mils/184 degrees

Weapons: Service rifles

Ammunition: Service

Targets: Point and area type targets. Targets at 1000 inches for battlesight zeroing.

Communication: Telephone jack (0155) is available; read section 4005, this Manual.

Special Instructions: Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-303

Description: Basic techniques of fire and mortar field firing

Location: GC 796359, DOF 3321 mils/187 degrees

Weapons: Service rifles, 60MM/81MM mortars, M60, MG, SAW and M203

Ammunition: Service and 1/4 lb demolition

Targets: Point and area targets

Communication: A telephone jack (0201) is available; read section 4005, this Manual.

Special Instructions: Direct firing downrange only. Using unit is responsible for requesting engineer support for emplacement of demolitions. The first 80 meters of the range is a "no fire zone." Do not intentionally fire any rounds that might create a "dud hazard" into the "no fire zone." All duds in the "no fire zone" must be reported immediately to the Range Control Duty Officer. No down range movement past the "no fire zone" unless accompanied by EOD personnel. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-304

Description: Helicopter Door Gunnery Range

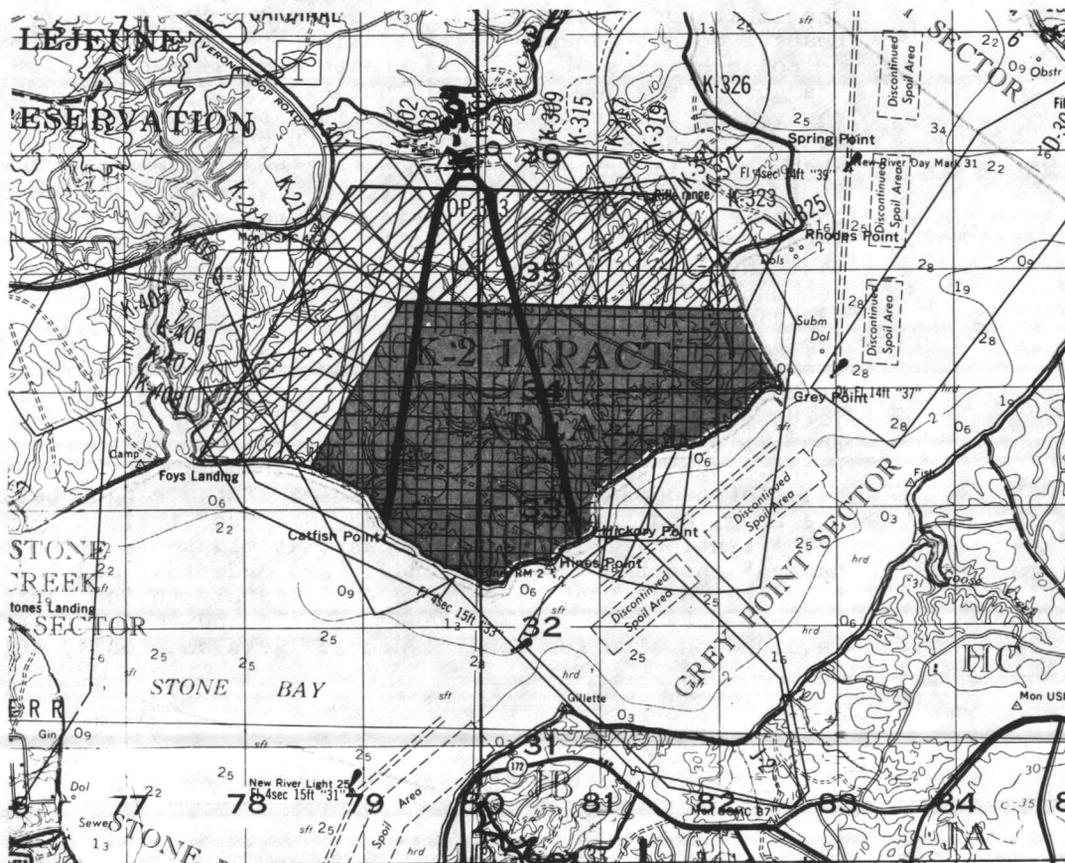
Location: GC 798359, DOF 3081 mils/173 degrees

Weapons: M60 machine gun (helos only)

Ammunition: Service (7.62mm only)

Targets: Tank and AAV hulls; tire targets.

Special Instructions: The OIC/RSO will be an officer other than the aircraft commander. Weapons will not be loaded while transiting to or from the range. The OIC will ensure all weapons are clear and safe before leaving the range. Aircraft will be cleared into the range by the RCDO (BLACKBURN 325.0 UHF/ 38.60 FM). Ranges K-303 and K-305 will be closed while this range is in use. Aircraft are allowed to land so personnel can raise/lower the range flag. Aircraft will hover 50' AGL or less over the cleared area south of K-Ranges (Mill Creek) Road and north of (behind) the firing targets in such a manner that all rounds impact within the lateral limit signs. Firing will be in accordance with the current edition of MCO P3570.1. Read chapter 4, this Manual.



RANGE CONTROL SOP

Range: K-305

Description: Infantry Weapons (Demonstration) Range

Location: GC 799359, DOF 3119 mils/175 degrees

Weapons: All infantry weapons except .50 caliber machine gun, 106 MM recoilles rifle, M40A1, TOW and hand grenades

Ammunition: Service

Targets: Tank and AAV hulls varying at ranges from 300 to 1000 yards

Communication: Dial telephone (0201) is available; read section 4005, this Manual.

Special Instructions: When special demonstrations are conducted and firing azimuths increased, Mill Creek Road, and ranges K-309, K-315, K-319, K-321, K-322, K-325 and all 200 and 400 series ranges will be evacuated. There will be no cross-range firing except when the FPF is conducted and only then on an azimuth which will provide a beaten zone within the authorized fan. Insure all personnel do not fire 5.56mm or 7.62mm at the tank located 300 meters downrange centered. RSO's will supervise that the sights on 81mm/60mm mortars are checked with a gunners quadrant. Insure the minimum range for weapons comply with the following: 60mm mortars - 300 meters. 81mm mortars - 500 meters. The maximum range of any weapon will not exceed the limits of observation. Inspect demo pits ensuring charges do not exceed specified size and there is no debris or solid objects which could create a missile hazard. Charges in the demo pits will not exceed 1/4 lb TNT equivalency. Spectators not wearing steel helmets will be seated far back in the stands beneath the overhead cover. When the infantry weapons demonstration or the night FPF are to be conducted, the safety officer will report to the range one hour prior to scheduled start of the class, to insure the weapons are emplaced and test fired. No downrange movement past the second firing line is permitted without EOD personnel. Report all duds to Range Control Duty Officer (3064). If the duds present a hazard to personnel on the firing line, call a CEASE FIRE, and request EOD. There are two firing lines. The first firing line is directly in front of the stands and is for mortars. The second firing line is 80 meters in front of the first firing line and is used for all other infantry weapons that are authorized for this range. Mortars are prohibited from directly firing over the heads of troops. The first 80 meters of the range, between the first and second firing lines is a "no fire zone." Do not intentionally fire any rounds that might create a "dud hazard" into the "no fire zone." Any duds that are in the "no fire zone" must be reported immediately to the Range Control Duty Officer. Emergency vehicle and corpsman are required on site for special demos. Read chapter 4, this Manual.

RANGE CONTROL SOP

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Range: K-309

Description: Machine Gun Range and LAAW Range

Location: GC805359, DOF 3478 mils/196 degrees

Weapons: M60 machine gun, M72 rocket launcher, service rifles, SAW and 60mm/81mm mortars.

Ammunition: Service, M73 sub-caliber only, and only illumination rounds from 60mm/81mm mortars.

Targets: Type "E" course silhouette targets

Communications: Dial telephone (0201) is available, read section 4005, this Manual.

Special Instructions: A RSO will accompany each unit downrange during fire and movement exercises. Each RSO will be equipped with appropriate signalling device to effect CEASE FIRING in the event of danger or emergency situations. During fire and movement each fire team will be accompanied by a safety officer/SNCO. Lanes and limits of fire for each firing point will be pointed out and supervised during the entire course of fire. Limit of advance is the 80m within the NFZ. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-315

Description: Night and Combat Field Firing Range

Location: GC809359, DOF 3194 mils/180 degrees

Weapons: Rifles, pistols, and shotguns

Ammunition: Service

Targets: Twelve electro-mechanical "pop-up" targets.

Communication: Telephone jack (0302) is available; read section 4005, this Manual.

Special Instructions: Advance indication required for night firing. No maneuver, Range Control provides one (1) range operator. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-317

Description: Close Combat Range

Location: GC811358, DOF 3686 mils/207 degrees

Weapons: Rifles, shotgun and pistols

Ammunition: Service

Targets: Twelve electro-mechanical "pop-up" targets.

Communication: Telephone jack (0302) is available; read section 4005, this Manual.

Special Instructions: Read chapter 4, this Manual. No maneuver, lateral transition only.

RANGE CONTROL SOP

Range: K-319

Description: Field Firing Range

Location: GC813358, DOF 3248 mils/182 degrees

Weapons: Rifles, pistols, shotguns, machine guns, SAW, mortars

Ammunition: Service, mortar illumination only

Targets: Troop "tire" silhouettes and improvised targets

Communication: Read section 4005, this Manual.

Special Instructions: No maneuver. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-321

Description: Transition Range

Location: GC818353, DOF 3948 mils/222 degrees

Weapons: Rifles, pistols, shotguns, and 60mm/81mm mortars

Ammunition: Service but only illumination rounds will be fired from 60mm/81mm mortars

Targets: Eight electro-mechanical targets

Communication: A telephone jack (0116) is available; read section 4005, this Manual.

Special Instructions: Range Control provides one (1) range operator. No maneuver, read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-322

Description: Moving Realistic Target Range

Location: GC819357, DOF 4094/230 degrees

Weapons: Rifles, pistols and shotguns

Ammunition: Service

Targets: One moving target on a fixed track.

Communication: A telephone jack (0116) is available, read section 4005, this Manual.

Special Instructions: Range Control provides one (1) range operator. The electrical power switch remains in the "OFF" position at all times when not in use. No automatic firing is permitted. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-323

Description: Moving Realistic Target Range

Location: GC 819357, DOF 4094 mils/230 degrees

Weapons: Rifles, pistols and shotguns.

Ammunition: Service

Targets: One moving target on a fixed monorail.

Communication: A telephone jack (0611) is available, read section 4005, this Manual.

Special Instructions: Report the number and location of all duds to the RCDO upon completion of firing. The first 80 meters of this range is a "no fire zone". Do not intentionally fire rounds into this area. If a dud lands in the "no fire zone", report it immediately to the RCDO and CEASE FIRING. No downrange movement unless escorted by EOD. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range: K-325

Description: M72 LAAW Range

Location: GC823355, DOF 4240 mils/239 degrees

Weapons: M72 LAAW

Ammunition: Service and M73 sub-caliber

Targets: Tank and AAV hulls, moving target system for sub-caliber

Communication: A telephone jack (0116) is available; read section 4005, this Manual.

Special Instructions: OIC's will place barricades across the road for backblast so traffic does not enter the surface danger area. Report all duds and their location to the RCDO immediately. Minimum range is 200 meters. No downrange movement unless escorted by EOD. Read chapter 4, this Manual.

RANGE CONTROL SOP

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Range: K-326

Description: EOD Range

Location: GC817365

Ammunition: Disposal of unserviceable ammunition, training, disassembly/
inerting of ordnance, and testing of small arms ammunition.

Communication: A telephone jack (0479) is available.

Special Instructions: Fly the scarlet streamer and maintain a barricade at entrance
site from Rhodes Point Road (GC 815360). Sound a ten second
warning siren one (1) minute prior to each shot. Access to
the site is controlled by the Base EOD and MAG-29 EOD Teams
and 2d FSSG EOD Platoon. Ordnance may be destroyed from
0001-2400 daily. Read chapter 4, this Order. Notify
BLACKBURN before going hot or cold.

RANGE CONTROL SOP

Range/Facility: K-402
Description: Search and Kill Range (Michelin City)
Location: GC 777349
Weapons: M16, HE fragmentation and practice hand grenades, pistols and revolvers
Ammunition: HE fragmentation and practice grenades only, 9mm, .38 caliber, 7.62mm, 5.56 ball and blanks, .45 caliber
Special Instructions: The safety officers will be equipped with a whistle to effect CEASE FIRE in the event of danger or emergency. Read Chapter 4, this Manual.

Before live grenade training on K-402, all personnel must be proficient in the safety precautions for handling and throwing live grenades. Prior to conducting live fire operations, all personnel being trained will conduct numerous rehearsals using blank ammunition and practice grenades.

Once the safety pin has been pulled on a grenade, the grenade must be thrown. No attempt will be made to reinsert the safety pin.

If a dud grenade occurs, training will cease and the building will be cleared of all personnel until EOD has disposed of the grenade.

A Safety Officer/RSO will move with the personnel being trained and will constantly observe and prevent safety violations. Weapons will remain on safe, with the fingers off the trigger until sights are on the target.

Targets will be engaged with semi-automatic fire only. After four hand grenades have been thrown the sand at K-402 must be refilled to prevent damage to the structure. (See figure next page). K-402 Fire and Maneuver range cannot be used if HE grenades and ball ammo are being used on the Search and Kill (Michelin City) range.

RANGE CONTROL SOP

Range: K-405

Description: Hand Grenade Range with a practice area

Location: GC775348

Weapons: Hand grenades

Ammunition: Service (HE and WP)

Targets: Six throwing pits and practice area

Communication: A telephone jack (0181) is available; read section 4006, this Manual.

Special Instructions: Only practice grenades are allowed to be thrown from the practice pit. The OIC/RSO will ensure those persons not required to be in the throwing pits are under cover of the troop shelter prior to authorized firing. The OIC will insure that not more than one grenade is thrown at a time and utilize every other throwing pit. HAND GRENADES WILL NOT BE THROWN AFTER ONE (1) HOUR PRIOR TO DUSK. All duds will be reported to the RCDO immediately and a CEASE FIRE will go into effect. EOD will be notified for dud removal/disposal. Read chapter 4, this Manual.

RANGE CONTROL SOP

Range/Facility: K-406A

Description: Cover and Clear Range

Location: GC 77345

Weapons: M16, SAW

Ammunition: 5.56 Ball and Blank

Special Instructions: All teams will receive a walk through and a blank fire exercise prior to conducting LIVE FIRE training. Blank and Ball ammo may be used in training, however, under NO CIRCUMSTANCES will there be a mixture of Blank and Ball ammo. Weapons will be loaded at the command of the Instructor/Safety NCO. Muzzles will be elevated unless engaging targets, and pointed down range at all times. Weapons will be cleared after completing each event. The RSO will ensure all personnel are briefed on the special safety requirements for each station prior to conducting LIVE FIRE operations at that station. All teams will receive a walk through and a blank fire exercise prior to conducting LIVE FIRE training. K-406A cannot be used if K-407 is being used.

RANGE CONTROL SOP

Range/Facility: K-406B
Description: Friend/Foe Reaction Range
Location: GC 773445
Weapons: M16, SAW, pistols and revolvers
Ammunitions: 5.56mm, .45 caliber, .38 caliber, 9mm
Communication: A telephone jack (0181) is available.
Special Instructions: K-406B cannot be used if K-407 is being used.



RANGE CONTROL SOP

Range: K-407

Description: Individual Quick Reaction Range

Location: GC777342, DOF (within approved SDZ) 1840 mils/104 degrees

Weapons: Rifles, pistols, shotguns

Ammunition: Service

Targets: SARTS targets, artillery and demolition simulators; moving targets are controlled individually.

Communication: A telephone jack (0181) is available; read section 4006, this order.

Special Instruction: Range K-407 differs from other ranges because it has no fixed firing line. Individual fire from varied positions is at electronically activated (surprise) targets while following a prescribed course through the range. Each phase must be completed before moving to another phase. Range safety is complicated by a lack of visibility over the entire range and the inability of one person to supervise all phases of the range. Altering the configuration of the range to provide control and observation by one person would negate the training effectiveness. Therefore, special safety instructions for this range have been established.

Personnel required for the operation of range K-407 are:

1. Range operators assigned by Range Control who perform the following duties:
 - a. Ensure that a copy of these instructions is conspicuously posted on the range at all times.
 - b. Delivers a copy of these instructions to the designated range safety officer prior to briefing using unit.
 - c. Brief the using unit on the safety regulations, range layout and type equipment installed on the range.
 - d. Activate targets and simulators.
2. Prior to live firing, RSO will ensure that a two-way communications provided by using unit exists between the range control point and Range Control Duty Officer. An immediate cease fire shall be initiated in the event of a communications failure.
3. Range Safety Officer and Assistant Range Safety Officer assigned by the using unit will carry out all normally assigned range safety officer duties and ensure that special safety instructions for Range K-407 are complied with at all times. Read chapter 4, this Order.
4. A minimum of two instructors/safety NCO's will be assigned by the using unit, to perform the following duties:
 - a. Control movement of each element through course, ensuring that the element remains intact and there is no rearward movement except by the designated return trail upon completion of the course.
 - b. Ensure the element complies with range procedures and does not create a hazard.

RANGE CONTROL SOP

c. Order immediate CEASE FIRE if the safety siren is sounded or by sounding whistle in the event a dangerous situation arises or injury occurs.

d. Notify the range safety officer/range control operator of any potentially dangerous situation not covered by instructions.

Safety instructions:

1. The Range Safety Officer, Assistant Range Safety Officer and instructors/safety NCO's will be equipped with a whistle.
2. A firing element will consist of no more than five individuals.
3. Firing elements will proceed through the course singularly. No element will be cleared onto the range until the preceding element has cleared the range.
4. Each element will be accompanied by at least one safety officer and one instructor/safety NCO.
5. Only the point man of each element will load his weapon. All other members will carry ammunition in loaded magazines secured in pouches attached to their belts.
6. The point man will take the target under fire upon contact. The other members of the element will not fire until they have come on line with the targets and have been given a fire command by the element leader.
7. All movement will be forward (clockwise) through the course.
8. The instructor/safety NCO will control pace, route and firing direction for the element.
9. The control point radio will be monitored at all times.
10. In case of emergency requiring an immediate CEASE FIRING, the using unit will be responsible for sounding the siren. The siren is located on a telephone pole adjacent to the range flag pole.
11. Refer to chapter 4, this Manual and chapter 3 for SARTS employment. Ranges K-406A, 406B, and 408 cannot be used if K-407 is being used.



RANGE CONTROL SOP

Range/Facility: K-408
Description: Urban Obstacle Course
Location: CG 775339
Weapons: M16
Ammunition: 5.56 Ball
Special Instructions: K-408 cannot be used if K-407 is being used. The tunnel obstacle must be thoroughly inspected by the Range Safety Officer to insure it is safe before this range can be used.



RANGE CONTROL SOP

Range: BT-3

Description: Bombing and Target Range (also known as the N-1 Impact Area). Read chapter 2, this Manual.

Location: From Onslow North Tower running northeast along the beach to Bear Inlet and seaward approximately 25,000 yds, see Camp Lejeune Special Map, Appendix K, read chapter 2, this Manual.

Weapons: Fixed Wing Aircraft utilizing the IP's and run in heading contained in current edition of this Manual.

- MK 76 and MK 80 series inert bombs
- 2.75 rockets, HE and practice, at 20 degrees or greater dive angles.
- 20mm, 25mm, 30mm at 20 degrees or greater dive angles
- MK 81 and MK 82 not authorized

Rotary Wing Aircraft

- 2.75", 5" rockets at 20 degree or greater dive angle
- 7.62 Aerial Gunnery
- .50 caliber Aerial Gunnery
- 20mm, 25mm, 30mm at 20 degrees or greater dive angle

Artillery - All types

Mortars - All types

Ground Weapons - Same as Range G-7/6/5

Tow - Aerial firing from rotary-wing aircraft

Ammunition: Artillery - HE, WP, Illum
 Mortars - HE, WP, Illum
 Ground - 5.56, 7.62, .50 caliber, 20mm, Dragons, TOWS, SMAW

Targets: Improvised targets, generally vehicle hulls

Communication: Following dial phones are available: Browns Tower (7252); Onslow North Tower (7441) and Bear Creek Tower (1740). Dual communication must be maintained (MAG line and radio) between towers and RSO. Read section 4006.

Special Instructions: TLZ Goose is authorized as a rearming zone for aircraft. Range guards are needed to man lookout towers. Read section 2003, and chapter 4, this Manual.

1. General

- a. Prior to commencing fire until termination, fly scarlet streamer during daylight hours, display red flashing light from sunset until sunrise at flagpoles on top of the range towers.

RANGE CONTROL SOP

b. Position range guards with radio and binoculars at least one half hour prior to the aerial search to serve as air/water sentries in Bear Creek and Onslow Beach North Tower. Guards are to promptly notify the officer in charge of firing (or forward air controller) before a vessel or aircraft not engaged in the exercise penetrates the surface danger zone. Sectors of observation are: Bear Creek Tower 65 degrees to 190 degrees and Onslow Beach North Tower 55 degrees to 270 degrees.

c. Firing will cease if streamers or flashing light are lowered or extinguished for any reason.

d. Projectiles will not be fired to impact within 200 yards of the Intracoastal Waterway.

e. The using unit will insure that a visual search has been made of the target complex, Intracoastal Waterway, marshes, dunes and that the guard boats are in position half an hour prior to firing to insure that the area is safe. The forward air controller may utilize aircraft as appropriate in conducting the aerial search immediately prior to aircraft firing exercises.

f. Mortars and tanks may be fired from Brown's Tower mortar pit to mark targets. A Range Safety Officer is required to have communications with tower guards, the OIC of firing, guard boats and Range Control Duty Officer.

2. Air Operations

a. A line 800 yards from the seaward shore of the Intracoastal Waterway is designated as a permanent bomb line, beyond which aircraft ordnance may not be impacted.

b. Close air support operations will be under the positive control of a forward air controller.

c. The forward air controller (ground), if employed, will be positioned in the vicinity of or in Brown's Tower.

d. During night close air support operations, when weather conditions are less than 3000 feet ceiling and five miles visibility, or when ground level visibilities do not permit the range guards to visually observe waterborne traffic in the Intracoastal Waterway or seaward for 1000 yards, aircraft firing or bombing exercises will not be permitted without continuous lighting by flares or other special lighting measures to ensure no vessels enter the surface danger zone.

e. Off-set radar bombing utilizing the RABFAC system must be conducted under VFR condition under the control of a FAC located at Brown's Tower. The following rules apply:

- Same headings as contained in this Manual
- First pass must be cold
- Mandatory read back by aircrew to FAC of beacon brief
- B/N must monitor the aircraft systems actual altitude during run in phase.

RANGE CONTROL SOP

- MK 76 and MK 80 series inert are only bombs authorized for RABFAC missions.

f. Forward Air Controller

(1) Any air operation involving aircraft live firing or bombing close air support, paradrops or combined air/ground exercises, requires positive control of aircraft by a forward air controller. The term forward air controller is used synonymously with officer in charge of firing regarding these safety regulations.

(2) Forward air controllers are required to report to the Range Control Duty Officer for the range check-out briefing normally given to officers in charge of firing.

(3) FAC will notify the Range Control Duty Officer immediately after the last aircraft has cleared the area so that temporary fire suspension may be lifted for ground units, if in effect.

g. TOW Firing

(1) Aerial firing of TOW missiles is approved from the cleared area south of Highway 172 and north of the Intracoastal Waterway which includes the G-5 and southern portion of G-6 firing ranges. The target(s) utilized will be the simulated convoy located at GC960306. All firing will be in accordance with MCO P3570.1A and the below SDZ.

(2) With prior coordination, Range Control will provide a range guard and flag at the G-5 range road.

(3) Range Control will provide guard boats for the Intracoastal Waterway. If at anytime the coxswain of the boat crew determines the weather conditions are hazardous to the safety of his/her craft, he/she will notify the OIC or RSO and the RCDO.

(4) Two aircraft must work together so one is supervising the range clear, while the other is firing or preparing to fire.

(5) Rotary wing aircraft will do their own range sweep before firing and keep communication with Range Control 325.0 UHF (Primary), 38.60 FM (Secondary), and the guard boats, 38.45 FM. Units will not begin firing until they have received clearance from "BLACKBURN."

3. Artillery

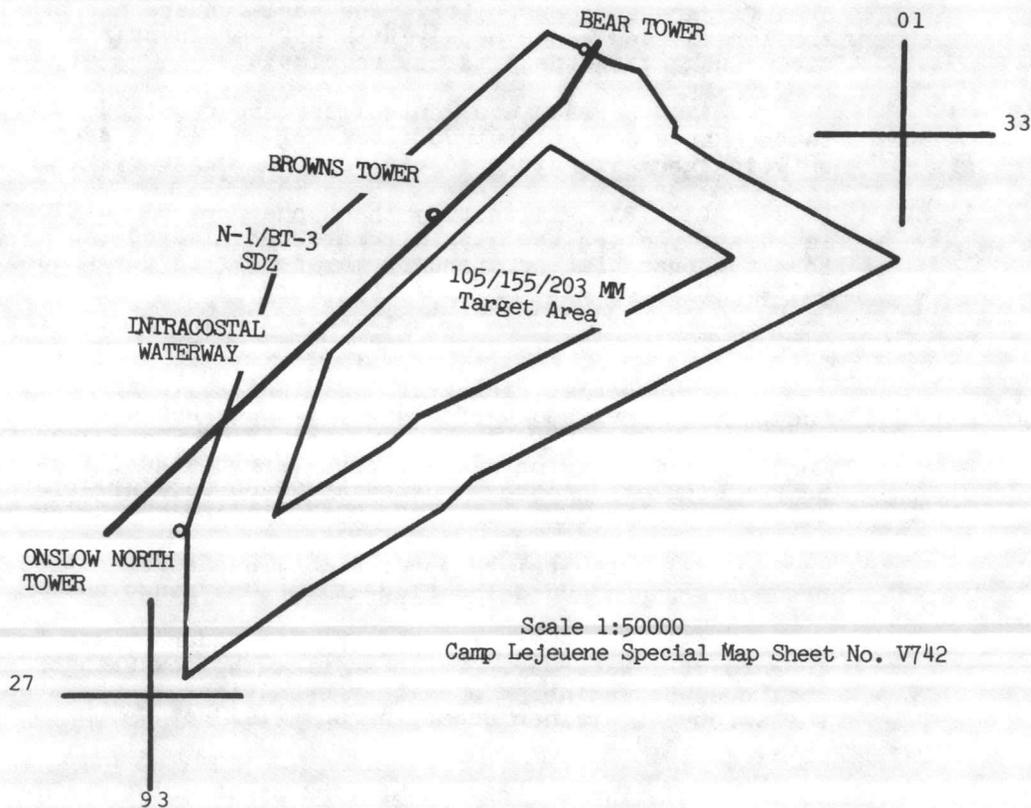
a. Field artillery units authorized to shoot into the BT-3 complex must coordinate well in advance of the firing exercise with Range Control.

b. Field artillery units may be authorized to deliver high angle ordnance into BT-3 while flat trajectory weapons are firing at either fixed or moving targets on G-5 or G-7.

c. Normally, a Range Safety Officer will be positioned with the forward observers in the vicinity of Brown's Tower. If flat trajectory weapons are firing concurrently from G-5, line, or G-7, he and the forward observers will be in either Bear Creek Tower or Onslow Beach North Tower, depending on safety and the SDZ. See the following diagram for special instructions pertaining to artillery/indirect firing into N-1/BT-3.

RANGE CONTROL SOP

N-1/BT-3 INDIRECT FIRE RESTRICTIONS



Surface Danger Zone/
Impact Area

Grid References

N-1/BT-3 SDZ

From Grid 93342722 to 93352876 to 94253150 to 97143405 to 97773377 to 98103370 to 98503310 to 98503300 to 99003269 to 99653235 to 00953167 to 96352929 to 96062900 to 94592811 to 93342722.

N-1/BT-3 Impact
Area
(All Calibers)

From Grid 94282892 to 94873067 to 97163285 to 97653255 to 98683189 to 99133167 to 96113012 to 95782995 to 95542971 to 94282892.

Special Instructions: When firing artillery into BT-3, the OIC of firing must post radio-equipped air sentries capable of observing the entire gun-target-line and radio-equipped water sentries capable of observing any waterway within the SDZ. Fields of observation must be such that the sentry(ies) has sufficient advance time to notify the OIC of any unsafe (or potentially unsafe) circumstance. This same capability to observe all of the SDZ applies to aircraft delivered ordnance. Additionally, prior to firing, the OIC of firing must inform each firing position/gunner/aircraft which ranges around BT-3 are occupied.

RANGE CONTROL SOP

- Range: Base CS Chamber and NBC Training Trail
- Location: Buildings 934 and 935
- Description: The facility consists of building 934, administration; building 935, CS chamber; CBT training area/trails behind building 935; and storage areas.
- Communications: Telephone (3518); on range (1928)
- Safety Regulations: The following safety regulations will prevail at all times for personnel participating in CS chamber and NBC training trail operations:
1. Safety Officer. A Gunnery Sergeant or above (MOS 5711), familiar with the contents of FM 21-48 and this order, will be responsible for the safe conduct of the CS chamber and NBC training trail operations. The individual shall be designated as the safety officer. He will be responsible for accomplishment of the following functions prior to the exercise:
 - a. Insure all personnel have been medically screened prior to their participation in the CS chamber exercise as required by FM 21-49, chapter 1-8.
 - b. Insure all first aid supplies and equipment are available prior to the commencement of training.
 - c. Has a medical corpsman present.
 - d. Insure a military vehicle is ready for casualty evacuation.
 - e. No privately owned vehicles except those of the Range Safety Officer (RSO) and the CS chamber personnel will be allowed on the range. No classes will begin until this regulation has been complied with.
 - f. Insure that the CS chamber is fired and recharged as required, (by base personnel) and is operated as prescribed in applicable regulations.
 - g. Ensure each detail receives safety lecture covering the general safety procedures for training.
 - h. No person who has entered the CS chamber may ride in a motor vehicle cab with the driver after such exposure. Further insure that motor vehicle operators do not enter the CS chamber.
 2. General Safety Procedures for Personnel. The following safety regulations apply to all personnel participating in the exercise.
 - a. Each individual will have his mask inspected for serviceability and proper fit as prescribed in TM 3-4240-258-14.
 - b. Personnel will not be permitted within the confines of the CS chamber at any time prior to chamber being fired.
 - c. Running within the confines, or after exit of the CS chamber will not be permitted.

RANGE CONTROL SOP

d. Personnel will not congregate in groups, nor rub or flush their eyes with water after exiting the CS chamber.

e. Upon returning to quarters, personnel should delay showering for approximately four hours. Contaminated clothing should be rolled up and secured in a paper bag or plastic bag pending laundering. No personnel should operate a motor vehicle until they have showered and changed clothing.

f. No one will remove any object or material of any type from the CS chamber and NBC training trail.

g. CS agent in solid form will not be permitted to contact exposed skin, clothing or equipment or any individual.

Special Instructions:

1. Range Personnel: NCOIC of chamber and appropriate assistants for operation of the chamber and firing the gas will be furnished by Range Control and using unit.

2. Weather: Inclement weather will necessitate the cancellation of the CS chamber exercise. A WBGT reading of 90° or higher will also necessitate termination of the CS chamber exercise.

3. Scheduling: Scheduling will be accomplished by units contacting their respective G-3 who will contact the CS chamber. Marine Corps Base units will schedule by calling the CS chamber and submitting a training request to the Range Control Officer, a minimum of ten working days in advance of date desired.

4. Other Requirements.

a. All personnel will be instructed in CS chamber procedures prior to arrival at the chamber.

b. Each individual will have a gas mask. There will be no exchanging of gas masks between individuals.

c. Groups of 40 to 250 personnel are required to use the CS chamber and NBC training trails. Advance approval from the NCOIC, CS chamber to conduct the exercise is required when these requirements cannot be met.

e. All units will call the CS chamber (3518) and inform the NCOIC of the exact number of personnel utilizing the facility on scheduled dates and times a minimum of one working day prior to use.

RANGE CONTROL SOP

Range: Area #5 Swimming Pool
Location: Building 540
Description: The area #5 swimming pool consists of one building housing an enclosed swimming pool for training purposes.
Authorized: All units
Communications: Telephone (2027)
Safety Regulations: The following safety regulations will prevail at all times for personnel participating in swimming pool operations:

1. Safety Officer. A warrant/commissioned officer, or SNCO, familiar with the contents of NAVMET P-5010-4 and this Manual, will be responsible for the safe conduct of swimming pool operations. The officer shall be designated as the safety officer. He will be responsible for accomplishment of the following functions prior to the exercise:

a. Furnish a minimum of two lifeguards, one on the stand and one walking, in addition to the necessary swimming instructors. Lifeguards will be holders of the American Red Cross Senior Life Saving Card and will be governed by the American Red Cross Life Saving Water Safety Manual in the performance of their duties. Pool operators are not water safety qualified and will not be utilized as lifeguards. There will be one water safety instructor for every ten people.

b. Ensure a corpsman, one oral resuscitation device and normal first aid equipment are available. In any emergency call the Branch Clinic, building #15 phone extension 3211.

c. Ensure all personnel take a soap shower in the locker room before entering the pool.

d. Allow no more than 80 people in the pool at one time.

e. Allow no one to dive from the high board when the pool is crowded. The pool attendant will determine when this condition exists.

f. Ensure non-swimmers stay in the shallow end of the pool and they remain in the pool no longer than one hour.

g. Allow no one to remain in or adjacent to the pool during an electrical storm.

h. No street shoes will be worn on the swimming pool deck.

i. Prior to entering the pool area and/or after using the toilet facilities, all bathers will be required to take a cleansing shower in the nude, using soap liberally - paying particular attention to the cleansing of body orifices.

j. Bathers who have been outside the bathhouse or pool enclosure will not reenter the pool without taking another shower.

RANGE CONTROL SOP

k. No person known to have a fever, cold, inflamed eyes, nasal or ear discharges, or other communicable diseases will be allowed to use the pool.

l. No person with open lesions or other evidence of skin disease, or who is wearing a bandage of any kind, will be allowed to use the pool.

m. Expecterating or urinating in the pool, expecterating on floors, runways and aisles, or contaminating the pool or its facilities in any other way is strictly prohibited.

n. Food and drink sold on the premises will be consumed in the lounging area adjacent to the pool enclosure and shall not be carried onto pool runways, facilities or into the pool proper.

o. Smoking will only be allowed in a specially designated area near the pool runway. This area will be distinctly marked and appropriate signs will be placed in the immediate area.

p. Bringing to the pool or throwing into it any objects that may in any way carry contamination, endanger safety of bathers, or produce unsightly conditions is prohibited.

q. The presence of dogs, cats or other pets within the enclosure, the pool proper, or the bathhouse facilities is prohibited.

r. No boisterous or rough play, except supervised water sports or training, will be permitted in the pool, the dressing rooms, or the shower rooms. Particular attention should be given to swimmers using diving boards and platforms.

2. Range personnel and area 5 pool operators. NCOIC of the swimming pool and appropriate assistants for operation of the swimming pool will be furnished by Range Control.

a. Open the pool during the following hours:

0800-1630 Monday through Friday
1630-2200 When scheduled

b. Two operators will be on duty at the pool from 0800-1630. When the swimming pool is scheduled for night training, one operator will be on duty until closing.

c. Permit only scheduled units to use the pool.

d. Maintain the Swimming Pool Operating Record (NAVDOKS 2563) with information now provided by Base Maintenance Utilities Division (columns 3, 4, 5, 6, 9, 10, 12). This report will be forwarded to the Range Control Officer for submission to the Commanding Officer, Naval Hospital, Camp Lejeune, N. C., 28542, on the last work day of each month.

e. Report any accidents immediately to the Range Control Officer, ext 3331/5803/3065.

f. Strictly adhere to admitting children under 12 years of age only when accompanied by a parent or other responsible adult.

RANGE CONTROL SOP

g. Maintain proper security, police and maintenance of the swimming pool, submitting timely work requests to the Range Maintenance Officer for necessary maintenance. Regular cleaning hours will be established and followed.

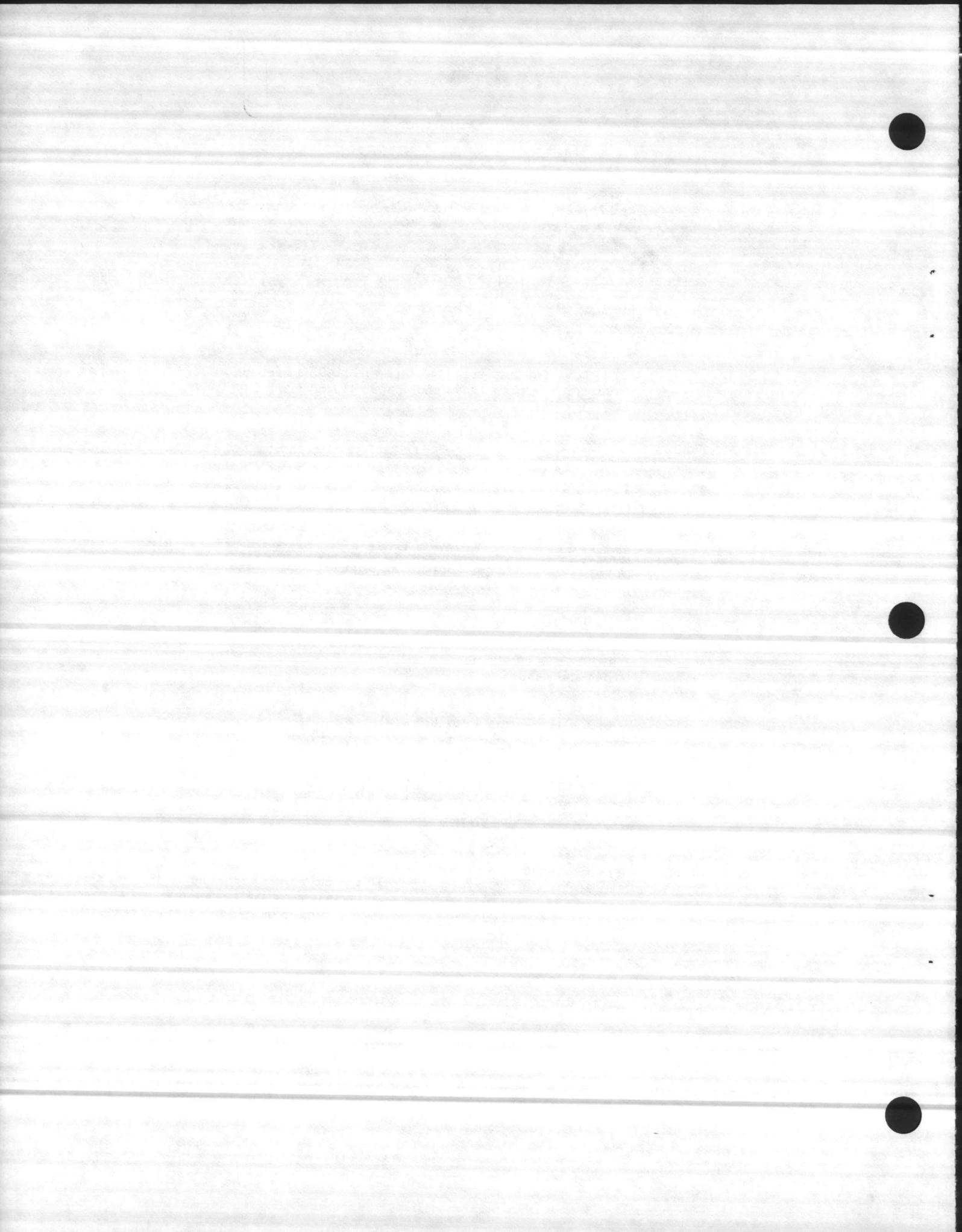
h. Prepare the pool for inspection the second and fourth Friday of each month and then notify the range services and support officer for conduct of the inspection.

i. In any situation in which the operator needs additional instructions, especially concerning the safety of personnel using the pool, he will at once contact the operations chief, scheduling NCO or range control officer at extensions 3065/5803.

j. Ensure that the regulations set forth in NAVMED P-5010-4 pertaining to swimming pool sanitation are strictly adhered to.

2. Scheduling. Units will schedule by submitting a request to their respective training sections who may call the pool (451-2027) for availability prior to submission of a TAR.





RANGE CONTROL SOP

APENDIX D

TRAINING FACILITIES

- 1. LIVE FIRE RANGES. Live fire ranges and locations are described in Appendix B.
- 2. OBSERVATION POSTS

<u>DESIGNATION</u>	<u>LOCATION</u>	<u>IMPACT AREA</u>
OP-1	GC 904375	G-10
OP-2	GC 914373	G-10
OP-3	GC 927368	G-10
OP-5	GC 895344	G-10
OP-6	GC 782355	K-2
BROWN'S TOWER	GC 958322	N-1

3. GUN POSITIONS **

<u>DESIGNATION</u>	<u>LOCATION</u>	<u>DESIGNATION</u>	<u>LOCATION</u>
GP 1	GC 91194107	GP 27A	GC 90692810
GP 3	GC 92234157	GP 27B	GC 90512811
GP 4A	GC 92704066	GP 28A	GC 91202935
GP 4B	GC 92874067	GP 28B	GC 91472898
GP 6	GC 90053760	GP 29A	GC 86952586
GP 7	GC 91473730	GP 29B	GC 86932594
*GP 8A	GC 93723808	GP 30A	GC 89582715
*GP 8B	GC 93533818	GP 30B	GC 89732716
GP 9	GC 93833715	GP 31A	GC 89222670
GP 10A	GC 95033694	GP 31B	GC 89252668
GP 10B	GC 95063685	GP 32	GC 92762990
GP 11A	GC 89483433	GP 33	GC 81403040
GP 11B	GC 89563421	GP 34	GC 80703110
GP 13A	GC 96123528	GP 39A	GC 85193078
GP 13B	GC 96113534	GP 39B	GC 85123079
GP 14A	GC 97013490	GP 40A	GC 86453381
GP 14B	GC 96943491	GP 40B	GC 86503379
GP 21A	GC 88623076	GP 41A	GC 75332924
GP 21B	GC 88653079	GP 41B	GC 75352919
GP 23A	GC 91843085	GP 42	GC 85423227
GP 23B	GC 92053079	GP DOVE	GC 85913065
GP 24A	GC 85072836	GP 51	GC 78694088
GP 24B	GC 85222838	GP 52	GC 78523685
GP 25A	GC 86182919	GP 54	GC 75743514
GP 25B	GC 86382919	GP 55	GC 75983470
GP 26	GC 90142946	GP OWL	GC 76522857

* RSOP Only

** GP's will be in accordance with the current editions of MCO 3570.1 and 10th Marines Regt O P5100.12 or current MOC/Regt Orders.

- 4. MANEUVER AREAS. See Camp Lejeune Special Map (Stock No. V742 SCPLJEUNE) for geographic locations and boundaries of maneuver areas and training areas.

5. LANDING ZONES

- a. Administrative Landing Zones

<u>ALZ #</u>	<u>LOCATION</u>	<u>COORDINATES</u>
1	Camp Johnson, MCSSS	790446
1A	Camp Johnson, MCAS (Temporary)	796454
2	Old Hospital Point, 6th MAB	828393
3	Area One	836391
4	W.P.T. Hill Parade Field (Restricted)	851382
5	2d MarDiv CP	848369

RANGE CONTROL SOP

<u>ALZ #</u>	<u>LOCATION</u>	<u>COORDINATES</u>
6	10th Marines Area	848369
7	OP #2 (G-10 Area) (Restricted)	916374
8	Courthouse Bay Area	835294
10	Tennis Court, Paradise Point (Restricted)	924423
11	2d FSSG (REIN) CP	851388
12	Golf Course (Remain Clear of Quarters)	808438
14	Rifle Range Quarters (Avoid Ranges)	753300
15	Camp Geiger	748466
15A	Camp Geiger	750451
16	6th Marines Area	847374
17	Radio Island, Morehead City	456428
18	2d Marines Area	841381
19	LC Maneuver Area	751281
20	K-Area (Rear of K-305)	801360
21	French Creek Area, Athletic Facility	867359
22	Adjacent to Risely Pier	903265
23	Squad Leaders Course Tent Camp	944373
24	Naval Hospital	842450
25	Recon	915275

(1) Administrative Landing Zones are not available for the conduct of training.

(2) Prior to landing at ALZs, gain area commander permission and contact Range Control.

b. Tactical Landing Zones

<u>DESIGNATION</u>	<u>LOCATION</u>	<u>NEW RIVER TACAN POSITION</u>	<u>COORDINATES</u>	<u>TRNG AREA</u>
Albatross	Sallier's Bay	147.0/11.0 NM	895273	IB
Bluebird	Mile Hammock Bay	155.0/10.8	873258	ID
Canary	Trap Bay	157.0/9.1	852284	IF
Cardinal	Verona Loop	170.0/3.5	784367	K
Condor	MF Area	192.0/4.2	758352	MF
Crow	G-4 Range	134.0/9.6	909324	GF
Dodo	HB Area	141.0/9.3	887308	HB, HF
Dove *	HB Area	149.0/8.5	859307	HB
Eagle	Ragged Point	141.0/1.5	785410	MC
Falcon	Onslow Beach Road	141.0/11.2	912287	GG
Gander	GG Area	138.0/10.6	913301	GG
Goose	Airstrip	136.0/10.6	919308	GG
Hawk *	Combat Town Area	136.0/9.3	896318	HE
Jaybird	HD Area	135.0/7.7	879337	HD
Lark	Triangle Outpost	110.0/10.1	948386	QA
Owl	LC Area	186.0/7.8	762285	LC
Parrot	MB Area	185.0/2.1	766392	MB
Penguin	FD Area	118.0/7.9	900375	FD
Robin	Hubert Area	97.0/11.0	951428	QA
Sparrow	DB Area	116.0/5.2	853398	DB

* NOTE: Due to loose sand, Hawk and Dove are not recommended for CH-46 operations.

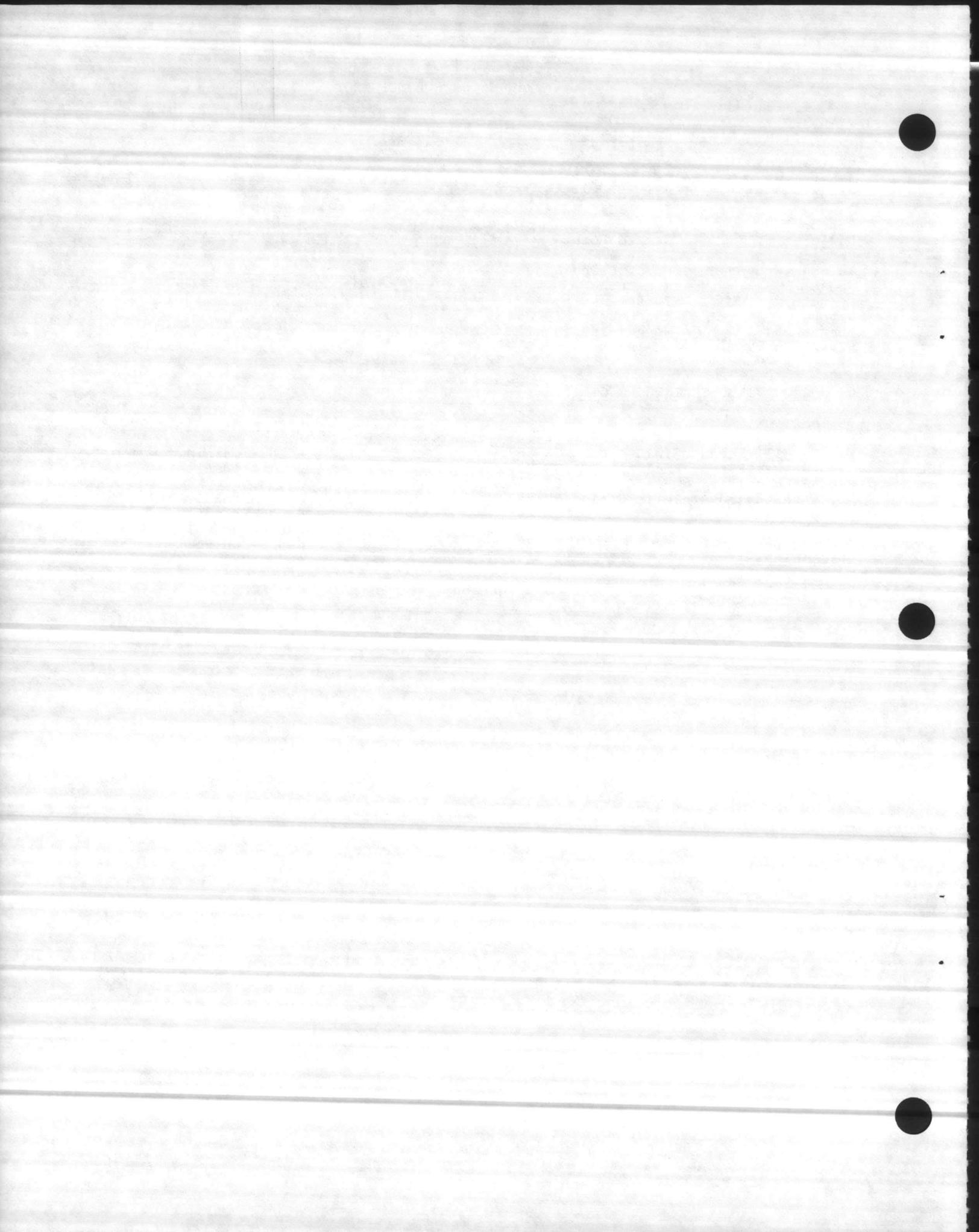
RANGE CONTROL SOP

c. Authorized Paratroop Zones

<u>DESIGNATION</u>	<u>LOCATION</u>
Albatross	Sallier's Bay
Bluebird	Mile Hammock Bay
Canary	Trap Bay
Condor	MF Area
Eagle	Ragged Point
Dodo	HP Area
Falcon (Woodchuck)	Hurst Beach Road
Goose	Airstrip
Penguin	FD Area
Gator	Recon Beach (9326)
Morgan Bay	Morgan Bay (8141)
Hicks (Shark)	NR Inlet (840215)

6. MAJOR FIELD TRAINING FACILITIES

<u>DESIGNATION</u>	<u>LOCATION</u>	<u>SCHEDULING ACTIVITY</u>
W.P.T. Hill Parade Field	GS 8538	AC/S, Training
Camp Geiger Parade Field	GS 7445	CO, 8th Marines
Camp Johnson Parade Field	GS 7946	CO, MCSSS
Molly Pritchard Athletic Field	GS 8439	CG, 2d FSSG (REIN)
Combat Town	GS 8931	Range Control
Gas Chamber, NBC Trails	GS 8738	Range Control
Dry-net (F-17)	GS 8738	Range Control
Swimming Pool	Area #2	AC/S, G-3 2d MarDiv
Training Pool	Area #5	Range Control
Swimming Pool	Camp Johnson	CO, MCSSS



TRAINING AREA REQUEST

DATE:

From:
To:

Line Number	Area or Range	Date	Time	Firing Time	Guns POS or OP	Type Weapons	Impact Area	Type Ammo	Unit	Air Clearance	Purpose
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											

- A. This TAR requires coordination of Air Spaces? YES NO
- B. Type of activity: CAS HELO PARA OPS INDIRECT FIRE
- C. Has an LZ been reserved? YES NO Unit needs SARTS support? Yes No
- D. This TAR requires coordination of other unit? YES NO
- E. Unit coordinated with: _____

*Denotes alternates

Signature / Phone No.

TRAINING AREA REQUEST

APPENDIX E

RANGE CONTROL SOP



RANGE CONTROL SOP

APPENDIX F

REGULATIONS FOR COMBAT TOWN

1. General

a. Combat Town is a simulated village consisting of 13 separate buildings. The ground-level apartments of units numbered one through sixteen are of cement block construction. Second and third floors, where noted, are of wooden construction.

b. Recesses have been placed in selected door jams and stair treads to facilitate the emplacement of booby-trap simulators. Field emplacements that require alteration of existing facilities are prohibited.

c. Combat Town includes maneuver areas extending 300 yards in all directions from the center of the facility.

2. Authorized Firing

a. See paragraph 7 below for authorized ammunition.

b. Live fire, the use of explosives, white phosphorous and incendiaries are prohibited.

3. Safety. Fly scarlet streamers during daylight hours; display red flashing lights from sunset until sunrise from flagpoles located 200 yards east, west, and south of Combat Town at all times the facility is in use.

4. Communications

a. A telephone jack (7452) is located in the steeple of the church, Bldg 1.

b. The officer in charge of training, the OIC's designated representative, or Range Control personnel only are authorized access to the church steeple.

5. Restrictions

a. Tracked vehicle traffic is prohibited on those hashmarked portions of streets as depicted on page F-3.

b. Units are cautioned about the surrounding Red-Cockaded Woodpecker restricted area.

c. Bivouacking is not permitted in Combat Town.

d. No fires will be intentionally set in Combat Town except as authorized by the Range Control Officer.

e. Tracked vehicles used in support of infantry will be operated at a minimum distance of 50 feet from all buildings or structures.

6. Miscellaneous

a. The officer in charge of training will receipt for Combat Town from the Range Control Office, Bldg 1404 prior to movement to the facility. Upon arrival at Combat Town, he will check in with the Range Control Duty Officer (BLACKBURN 38.60 FM (Old squelch)).

b. Prior to leaving Combat Town and after area police is completed, the officer in charge of training will request an inspection by the range inspector from "BLACKBURN."

c. Upon completion of all training, the officer in charge of training will report to the Range Control Office to return property and check in the facility.

RANGE CONTROL SOP

d. Every effort must be made to preclude damage to or misuse of Combat Town structures. In the past, willful damage and the use of doors and timbers for warming fires has resulted in increased maintenance and lost training time.

7. Authorized Ammunition

a. Small arms and machine gun ammunition:

- (1) A-111 cartridge, cal. 7.62mm M82 blank and 5.56mm blank
- (2) A-224 cartridge, cal. 30 M 1909 blank A-225

b. Hand grenades:

- (1) All practice and colored smoke hand grenades are authorized except during fire danger class 4 or 5.
- (2) Grenade, hand, training G-965 - no restrictions on use during fire conditions 1 through 5.

c. Land mines:

- (1) K-105 Mine, A/P, M-8 Practice
- (2) K-230 Mine, A/T, M-12 Practice
- (3) K-321 Mine, A/T, M-20 Practice

d. Pyrotechnics: not authorized during fire condition 4 or 5.

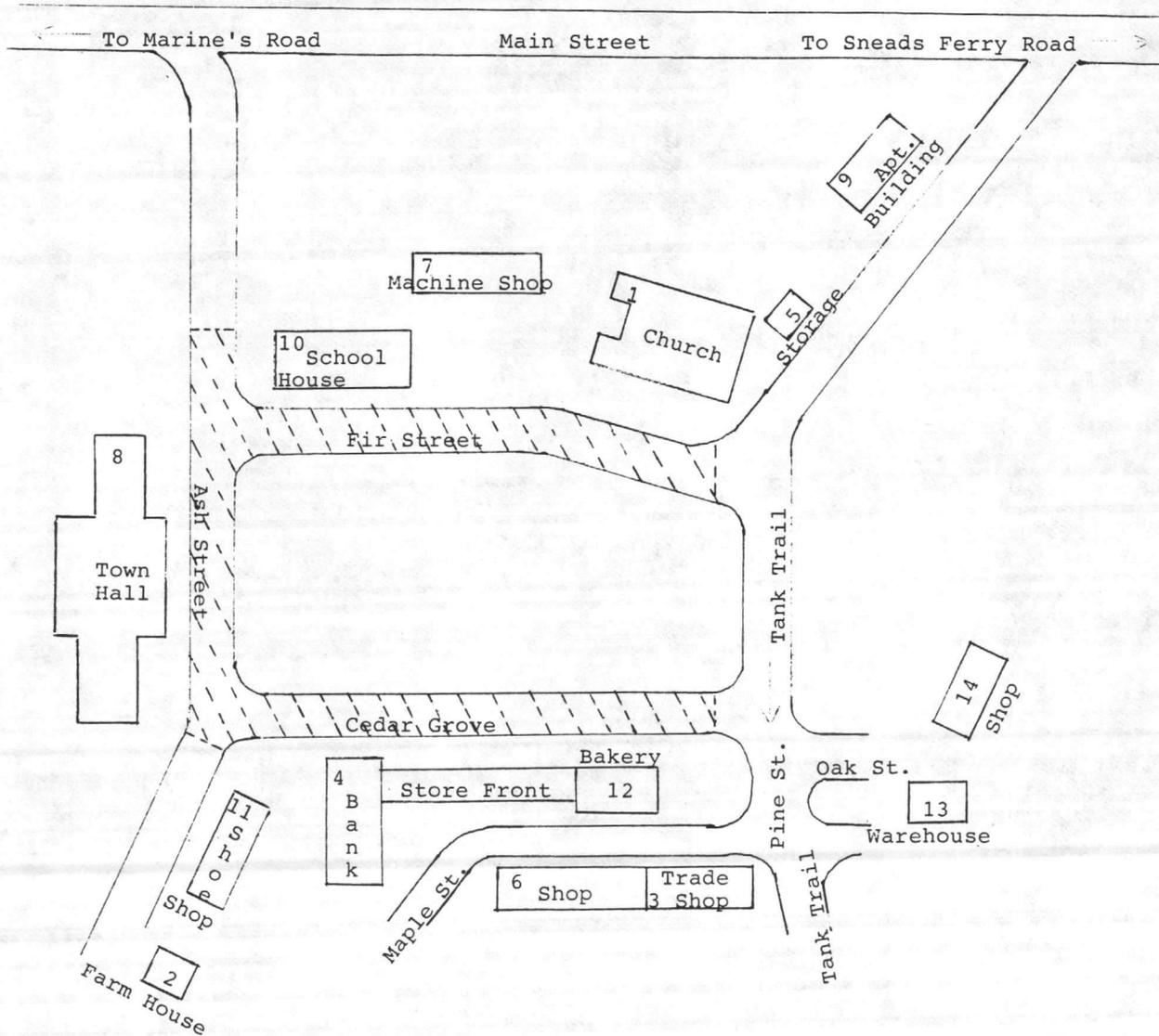
- (1) L-225 signal, illum, A/C RR
- (2) L-226 signal, illum, A/C YY
- (3) L-227 signal, illum, A/C GG
- (4) L-228 signal, illum, A/C RY
- (5) L-229 signal, illum, A/C RG
- (6) L-230 signal, illum, A/C GY
- (7) L-234 signal, illum, A/C YRY
- (8) L-237 signal, illum, A/C RR Star
- (9) L-239 signal, illum, A/C RGR
- (10) L-309 signal, illum, ground, ASP
- (11) L-310 signal, illum, ground, GSP
- (12) L-311 signal, illum, ground, RSP
- (13) L-312 signal, illum, ground, WSP
- (14) L-313 signal, illum, ground, ASC
- (15) L-314 signal, illum, ground, GSC
- (16) L-315 signal, illum, ground, RSC
- (17) L-316 signal, illum, ground, WSC
- (18) L-323 signal, smoke, ground, red parachute

RANGE CONTROL SOP

- (19) L-324 signal, smoke, ground, green parachute
- (20) L-325 signal, illum, ground, GSC
- (21) L-326 signal, illum, ground, RSP
- (22) L-378 firecracker, M80
- (23) L-598 simulator, booby-trap flash
- (24) L-599 simulator, booby-trap illuminating

e. Demolitions material

- (1) M-626 firing device, demolition, pressure type
- (2) M-627 firing device, demolition, pressure release
- (3) M-630 firing device, demolition, pull type





RANGE CONTROL SOP

APPENDIX G

RANGE CONTROL CHECK SHEET

HEADQUARTERS, MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

Date _____

From: Officer in Charge of Firing/Range Safety Officer
To: Range Control Officer/Range Control Officer

Subj: ASSUMPTION OF RESPONSIBILITY FOR _____

Ref: (a) BO P11102.1
(b) MCO P3570.1A

1. I certify that I have read and am familiar with all applicable portions of the references (a) and (b). I further understand that I must have in my possession a copy of the Safety Regulations governing Marine Corps Base Range Control at all times my unit is occupying the maneuver areas listed above.

2. As Officer in Charge of Firing/Range Safety Officer, I assume full responsibility for the safe conduct of all training on, and the proper use, and police of this training facility during the period:

<u>DATE</u>	<u>FIRING TIMES:</u>			<u>IMPACT AREA</u>
	<u>START</u>	<u>STOP</u>		
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

<u>Weapon(s)</u>	<u>Ammunition</u>
_____	_____
_____	_____

3. I understand that I must check-in this facility and return the below listed property upon completion of training (within 24 hours).

SAFETY STREAMERS _____	KEYS _____	
SAFETY LANTERNS _____	GATES _____	OTHER _____
SOP _____	PHONE _____	SPECIFY _____

<u>NAME</u>	<u>RANK</u>	<u>TITLE (PRINT)</u>	<u>ORGANIZATION</u>
_____	_____	_____	_____

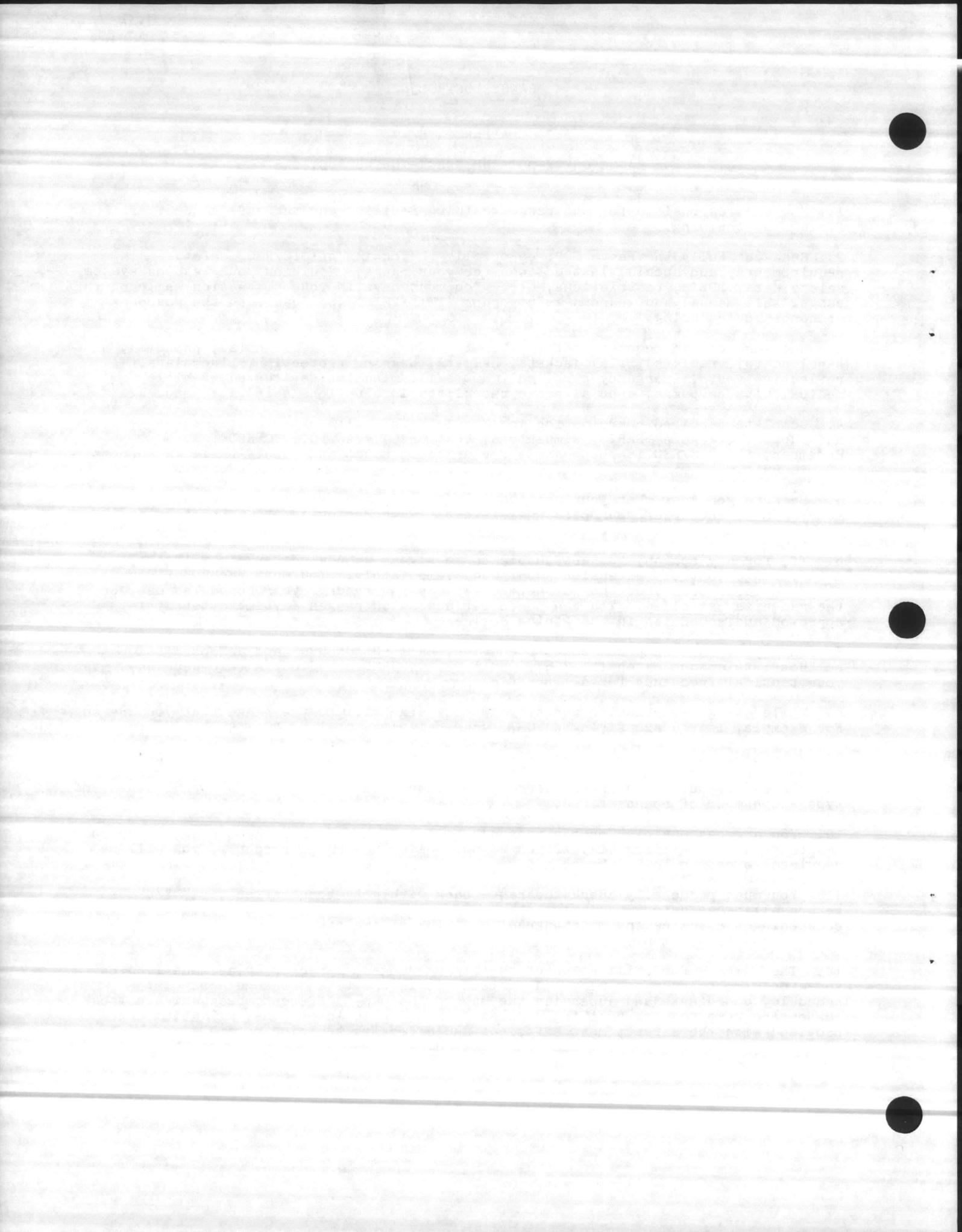
<u>PHONE NO.</u> _____	<u>SIGNATURE</u> _____
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RANGE CONTROL SOP

APPENDIX H

RANGE CHECK-OUT AND CHECK-IN INSTRUCTIONS

1. You are responsible for the range/training facility and the safe conduct of firing and training.
2. Read carefully the Range SOP; especially the duties of OIC/RSO, safety requirements, and special instructions for your range. You know your weapons system safety data, SDZ's, restrictions, etc. You must have in your possession while on the range, this manual and weapons safety pubs (TM's/FM's) applicable to the weapons/ordnance you're using.
3. Know and obtain required safety items: red streamer(s), light(s), phone(s), barricade(s), radio(s), flak jackets, helmets, hearing protection, binoculars, reflective vests, emergency pyro(red), NOD's/illumination devices(s), vehicle, medical kits/corpsman, special range checklists/instructions/scenarios, etc.
4. Complete required coordination in advance, e.g., with other units, range services and support (targets, SARTS, simulators, Boat Crew), FAC/FO, RCO/RCDO, etc. Remember, the OIC/RSO is responsible for units' conduct and safety while in support of his unit.
5. Be sure you know what your unit wants to accomplish; get a detailed brief from your CO/S-3, and brief your personnel in detail concerning safety. Know applicable environmental restrictions.
6. If, for any reason, you are unable to meet your scheduled range commitment, notify range control (extension 3065/3066) immediately. You must check out your range no later than 1200 the day before (Friday for Monday) your scheduled use, or the range is cancelled. You can check out scheduled ranges anytime after it is approved and scheduled in the Firing Notice.
7. When your unit is prepared to open fire, call "BLACKBURN" and ask permission to go "Hot"; telephone extension 3064, radio "BLACKBURN" or 38.60 FM (old squelch). Use your tactical frequency for all traffic within unit.
8. While using a particular range, your call sign will be the range that you are on. For example, if you are firing on G-7, your call sign will be "Golf-7."
9. Maintain constant monitoring of the safety net, 38.60 FM, give "BLACKBURN" a radio check every 30 minutes, and call when you are ready to secure from the range and the safety net. You are required to provide data on number of troops trained and type and number of rounds fired.
10. You are responsible for the thorough police of the range. Remove all trash and return brass to building 914. If you do not police the range properly, you will be required to return to the range and repeat the police. Do it right the first time!!
11. You must personally check the range back within 24 hours after use. You must return all range safety equipment checked out to you along with information concerning the police and maintenance condition of the range. You will be responsible for all equipment.
12. The demands for utilization of the firing ranges, maneuver areas, and landing zones on Camp Lejeune are many and varied. It is the task of Range Control to schedule, coordinate and supervise the use of the many different areas which compose the entire Camp Lejeune training complex. In order to insure that all units are provided with the safest, most efficient and effective training possible, your utmost cooperation and conscientiousness is required.



RANGE CONTROL SOP

APPENDIX I

"WHAT CAN I SHOOT AND WHERE?"

RANGE	DESCRIPTION	OPERATOR	KNOWN INTERFERENCE	JUDS	AUTHORIZED FIRING
A-1	Pistol/Shotgun Range (10 Tgt)	Y (MSS)	Water Traffic		.22/.38/.45/Shotgun
B-12	Pistol/Shotgun Range (10 Tgt)	Y (1)	BC East of (red line 74		.22/.38/.45/Shotgun /9mm
B-14	Assault Fortified Position (2 Bunkers)	N	BC/BD (Req EOD Sweep after M73 use)	Y	M16 Blanks/M60 Blanks/SAW Blanks/M73 LAAW/¼ DML
D-6	Indoor Small Bore Range (8 Tgt) (LAV Bn)	N	None		.22/9mm/.38/.45/SubCal Using .22/.223/5.56
D-9	Skeet Range	N (BSS)	DB/TLZ SPARROW		Shotgun
D-29	Rifle/Pistol/Shotgun Range (50 R.Tgt/16 P.Tgt)	Y (1)	Water Traffic/Air Traffic		.22/9mm/.38/.45/M16/Shotgun
D-30	Rifle/Pistol Range (45 R.Tgt/15P.Tgt)	Y (1)	Water Traffic/Air Traffic		.22/9mm/.38/.45/M16
E-1	Surface-To-Air Missile Range	Y (1)	Water Traffic/Air Traffic	Y	Redeye/Stinger/Hawk
F-2	Field Firing Range (FT/SQD)	N	F-4/F-5 (900M LOA)		9mm/.38/.45/M16/Shotgun
F-3	Field Firing Range	N	None (Req EOD Sweep after M73 Use (900m LOA)	Y	9mm/.38/.45/M16/M60/Shotgun/SAW/M73 LAAW/¼ DML
F-4	Fire Control Range (FT/SQD)	Y (1)	F-2/F-5 if MANE (900M LOA)		9mm/.38/.45/M16/Shotgun/SAW
F-5	MP Pistol Range (PMO)	Y (1)	F-2 (No MANE)		.22/9mm/.38/.45/M16/30/30/M40A1*/Shotgun
F-6	HAND GRENADE RANGE (5 Pits)	N	None	Y	Hand Grenade
F-10	Search & Traverse MG (16 Tgt)	Y (1)	F-12 (No MANE)		9mm/.38/.45/M16/M60/Shotgun/SAW
F-11	Rifle/Pistol Range (15 Tgt)	Y (1)	F-18 (Arty SubCal)		.22/9mm/.38/.45/M16/Shotgun
F-12	Assault Range (24 Tgt) (PLT)	Y (1)	F-9/F-10 (900M LOA)		M16/M60/M40A1*/SAW/1/4 DML
F-17	Dry Net Training	N	None		None
F-18	Night Field Firing/Arty SubCal Range (12 Tgt)	Y (1)	F-11/F-12 (No MANE)	Y	M16/14.5mm Arty SubCal/SAW
G-3	Infantry Weapons Range	N	(Req EOD Sweep after SubCal) G-8/G-9/OP-2/OP-3/ Lyman Rd. When Firing TOW	Y	9mm/.38/.45/M16/M60/SAW/MK19/M203/SMAW/M72 LAAW M73 LAAW/60 & 81mm/Dragon/TOW/¼ DML
G-4	Demolitions Range (2D CEB)	N	Low Aircraft/Blast Focus		DML up to 50 lb/M60A1 linear rocket
G-4A	EOD Disposal Site	N	Low Aircraft/Blast Focus	Y	DML up to 500 lb
G-5	Tank/LAV Anti-armor Range (No MANE)	Y (2)	Water Traffic/Air Traffic/G-6	Y	M16/M60/.50 Cal/Dragon/TOW/105mm Tank/25mm cannon
G-6	Tank/LAV Crew Combat Firing Course (Only Tanks/LAV So. Hwy 172)	Y (2)	G-4A/G-5/GP's/Freeman Ldg/Hwy 172/Water & Air Traffic/G-10 East of GL 93(Req EOD Sweep ea use)	Y	M60/.50 Cal/7.62mm COAX MG/25mm cannon/105mm Tank/TOW/60 & 81mm Illum/M40A1
G-7	Tank/LAV Gunnery Range (Stationary)	Y (1)	Water Traffic/Air Traffic (No MANE)	Y	M60/.50 Cal/7.62mm COAX MG/25mm cannon/105mm Tank 105mm Direct/155mm Direct/8 in. Direct/60 & 81mm Illum
G-8	M203 Grenade Launcher Range	N	None (No MANE)	Y	M203/40mm
G-9	SMAW/LAAW Range	N	None (No MANE)	Y	M72 LAAW/M73 LAAW/SMAW
G-10	Impact Area	N	Track Vehicles in G-10/Acft	Y	All Indirect Fire/CAS (L) up to 250 lb TNT Equiv.
G-10A	EOD Disposal Site	N	Same as G-10	Y	Only EOD Personnel

RANGE	DESCRIPTION	OPERATOR	KNOWN INTERFERENCE	DUDS	AUTHORIZED FIRING
I-1	Rifle/Pistol Range (16 Tgt)	Y (MES)	Traps Bay/TLZ Bluebird/IC		.22/9mm/.38/.45/M16/Shotgun
I-2	Demolitions Range	N	Water Traffic/Low Aircraft	Y	DML up to 50 lb/M68/LA Linear Rocket
J-2	Tank Gunnery SubCal Range	N	Water Traffic/Air Traffic		SubCal using .22/.223/5.56mm (Brewster)
K-2	Impact Area	N	Aircraft	Y	All indirect fire/CAS (L) up to 250 lb TNT Equiv.
K-2A	EOD Disposal Site	N	Same as I-2	Y	Only EOD Personnel
K-211	MK19/M203 Grenade Launcher Range	N	Aircraft /K-402 (NO MANE)	Y	MK19/M203/40mm
K-212	Infiltration Course (32 Pits)	Y (1)	(MANE w/in CRS only)		MG Simul/M16 Blanks/M60 Blanks/¼ DML
K-301	SMAW/LAAW Firing Range	N	None (NO MANE)	Y	SMAW/M72 LAAW/M73 LAAW/60 & 81mm Illum
K-302	Battlesight & Field Firing Range	N	None (NO MANE)		M16
K-303	Basic Technique of Mortar Fire	N	K-304 (NO MANE PAST 80m No Fire Zone)	Y	M16/M60/SAW/ M203/1/4 DML/60 & 81mm
K-304	Helo Door Gunnery Range (Hover Fire)	N	K-303/K-305 (NO F1t Down Range)		M60 (Helos Only)
K-305	Infantry Weapons Range	N	K-304 (NO MANE Past 80m NFZ)	Y	9mm/.38/.45/M16/M60/SAW/MK19/M203/SMAW/M72 LAAW/M73 LAAW/60 & 81mm/Dragon/¼ DML
K-306	Bivouac Area	N	None		None
K-309	Machine Gun Range (Firing on the move)	N	(NO MANE Past 80m NFZ)	Y	M16/M60/Shotgun/SAW/60 & 81mm Illum/M73 SubCal
K-315	Combat Field Firing (12 Tgt) (Night Firing)	Y (1)	(NO MANE)		9mm/.38/.45/M16/Shotgun/
K-317	Close Combat Range (12 Tgt)	Y (1)	None (Lateral transition only)		9mm/.38/.45/M16/Shotgun/
K-319	Field Firing Range (MTS)	N	None (NO MANE)	Y	9mm/.38/.45/M16/M60/Shotgun/M40A1/60 & 81mm Illum
K-321	Transition Range (8 Tgt)	Y (1)	None (NO MANE)	Y	9mm/.38/.45/M16/shotgun/M40A1/60 & 81mm Illum
K-322	Moving Realistic Target Range (1 Tgt)	Y (1)	None (NO MANE)		9mm/.38/.45/Shotgun/M16
K-323	M203 Grenade Launcher Range	N	None (NO MANE)	Y	M203/40mm
K-325	LAAW Firing Range	N	None (NO MANE)	Y	M72 LAAW/M73 LAAW
K-326	EOD Disposal Site	N	Water Traffic/Low Aircraft	Y	DML up to 50 lb/Testing of Small Arms Ammo
K-402	Fire and Movement Range	N	K-407 (LOA 400m)		M16/M60/¼ DML/SAW
K-405	Hand Grenade Range	N	None	Y	Hand Grenades
K-406A	Battlesight Range	N	K-406B (NO MANE)		9mm/.38/.45/M16/Shotgun
K-406B	Demolitions Range/Claymore Mines	N	K-406A/K-407	Y	DML up to 5 lb/M-18 Claymore
K-407	Individual Quick Reaction Range	Y (3)	K-402/K-406B/K-408		9mm/.38/.45/M16/Shotgun
K-408	Close Combat Range	Y (1)	K-407		9mm/.38/.45/M16/Shotgun
Base Rifle Range		Y	Stones Bay, LA, MF, VRL Rd		Small Arms and M40A1
NOTE: See SOP for Range Closures during K-305 Special Demonstration					
L-5	Combat Maneuver Range (32 Tgt)	Y (2)	Troop Mvmt-LA/LB/ME/MF/VRL Rd		9mm/.38/.45/M16/M60/SAW/Shotgun
BT-3	Impact Area	N	Water & Air Traffic/Firing from	Y	Direct Fire/Indirect Fire/CAS (L) up to 250 lbs TNT Equiv.
N-1		N	G-5, 6 and G-7		
OP1, 5 and 6		N	None	N	None - FO/FAC/TAB
OP2 and 3		N	None	Y	60 & 81mm/FO/FAC/TAB

* M40A1 may only be used by specific permission of, and coordination with, the Range Control Officer due to the extended SDZ of the sniper rifle.

RANGE CONTROL SOP

APPENDIX J

EXPLOSIVE EQUIVALENT INFORMATION

TYPE	MODEL	EXPLOSIVE	WT.	TNT EQUIV.
GRENADE	M67	COMP B	.44	.59
GRENADE	MK2	TNT	.13	.13
40MM	M381/M406	COMP B	.09	.12
40MM	M384	COMP A5	.09	.12
40MM	M397	OCTOL	.09	.10
40MM	XM434	RDX	.09	.13
40MM	M684	COMP A5	.12	.16
LAAW {HEAT}	M72A2	OCTOL	1.00	1.15
LAAW {FLAME}	M74	PENT	.03	.05
SMAW		COMP A5	2.4	3.19
60MM	M49A2	TNT	.34	.34
60MM	M49A3/A4	COMP B	.42	.56
60MM	M720	COMP B	.8	1.06
81MM	M56A1	TNT	4.3	4.3
81MM	M362A1	COMP B	2.1	2.83
81MM	M374	COMP B	2.1	2.83
4.2" {107MM}	M3A1	TNT	7.8	7.8
4.2" {107MM}	M329A1	TNT	7.8	7.8
4.2" {107MM}	M329A2	COMP B	5.75	7.76
105MM	M1	TNT	5.08	5.08
105MM	M1	COMP B	5.08	6.85
105MM	M67	COMP B	3.08	4.15
105MM	M327	COMP A3	7.6	10.26
105MM	M393	COMP A3	6.4	8.64
105MM	M393A2	COMP A3	6.6	8.91
105MM	M456	COMP B	2.5	3.37
106MM {HEAT}	M344	COMP B	2.8	3.8
106MM {APERS}	M581	TETRYL	.19	.24
106MM {HEP}	M346A1	COMP A3	7.72	10.42
155MM	M101	TNT	14.16	14.16
155MM	M107	COMP B	15.40	20.79
175MM	M437A1	TNT	30.00	30.00
175MM	M437A1	COMP B	31.00	41.85
8"	M106	TNT	36.3	36.3

RANGE CONTROL SOP

TYPE	MODEL	EXPLOSIVE	WT.	TNT EQUIV.
2.75"	MK11	HBX-1	1.4	2.07
2.75"	MK5	COMP B	.85	1.14
2.75"	MK64/M115	COMP B	2.3	3.1
5"	MK24	COMP B	9.1	12.28
5"	MK32/MK68	COMP B	15.0	20.25
5"	MK63	COMP B	15.0	20.25
5"	WDU-10/B	COMP B	24.0	32.4
REDEYE	M41	HTA3	.87	1.17
STINGER		HTA3	.87	1.17
HAWK	XMIM-23A	H6	73.0	98.55
HAWK {PRAC}		H6	4.0	5.4
TOW	BGM-71A	OCTOL	5.3	7.0
DRAGON	M222	OCTOL	3.8	4.37
BOMB	MK81	H6	100.0	135.0
BOMB	MK82	H6	172.0	259.2
BOMB	MK83	H6	445.0	600.75
BOMB	MK84	H6	945.0	1275.75
BOMB {FAE}	CBU55		75/225	250/750

<u>EXPLOSIVE</u>	<u>TNT EQUIVALENT</u>
TNT	1.00
COMP A3	1.35
COMP A5	1.35
COMP B	1.35
C4	1.35
EXPLOSIVE D	.77
H6	1.35
HBX-1	1.48
OCTOL	1.15
MINOL	1.22
PENT	1.66
RDX	1.50
TETRYL	1.25
TETRYTOL	1.20
BLACK POWDER	.55
DYNAMITE	.66

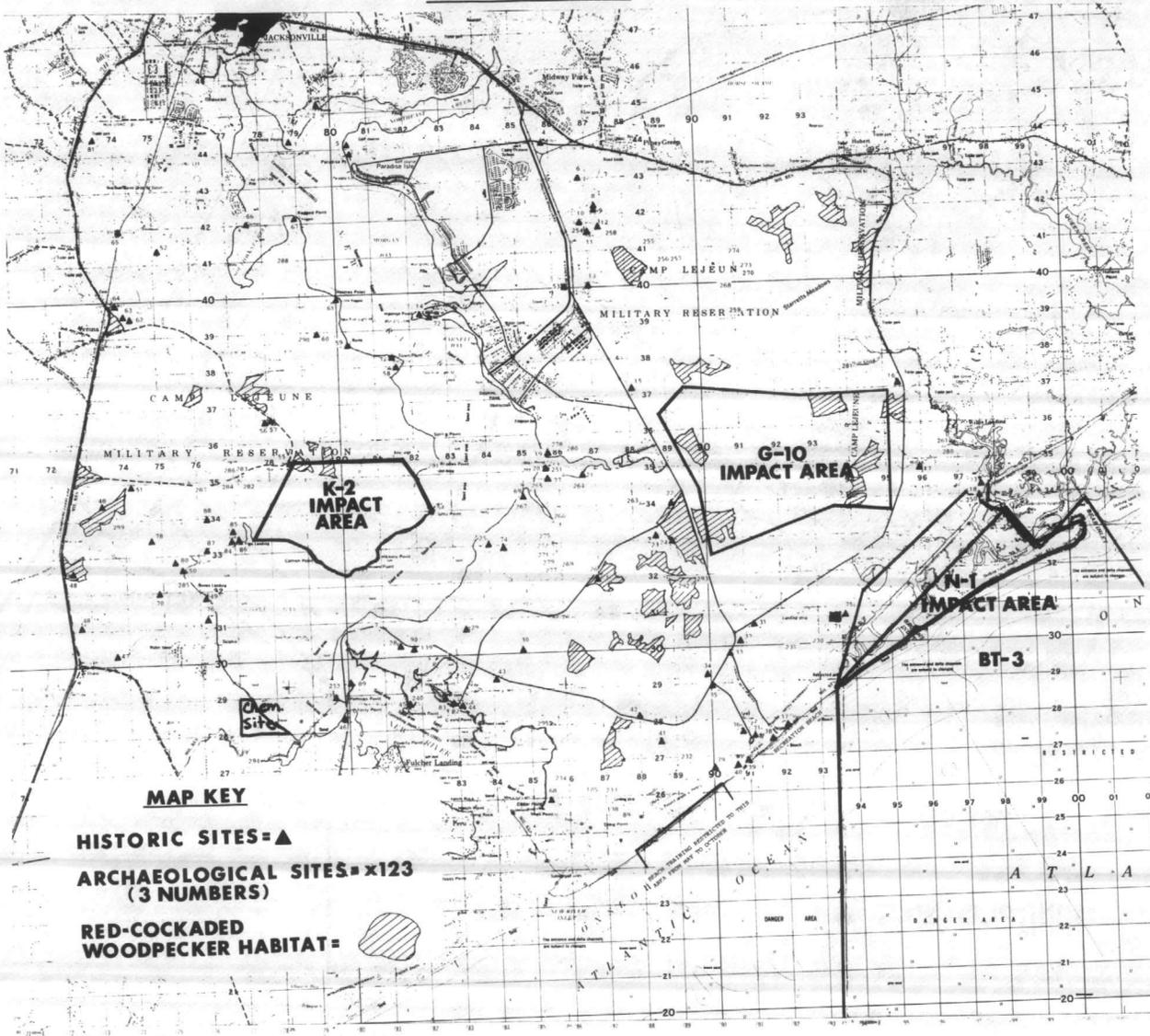
RANGE CONTROL SOP

APPENDIX K

CAMP LEJEUNE SPECIAL MAP

MARINE CORPS BASE CAMP LEJEUNE N.C.
RESTRICTED AREAS

APRIL
1985



RANGE CONTROL SOP

APPENDIX K

CAMP LEJEUNE SPECIAL MAP

**MARINE CORPS BASE CAMP LEJEUNE N.C.
RANGE SURFACE DANGER ZONES, DEDICATED IMPACT
AREAS, AND ARTILLERY GUN POSITIONS**

**APRIL
1985**

