SUBJECT GROUP 3500-3699 TRAINING AND READINESS

SUBGROUP 3521 - RADAR

3521.1 Naval Radar Operations and Restrictions

a. Requirements. Operation of Naval radars in the 200-40,000 MHz range inport or within range of civilian or military establishments shall be in accordance with instructions contained in CINCLANTFLT OPORD 2000 ANNEX K and the installation's local Hazard of Electromagnetic Radiation to Ordnance (HERO) Bill. HERO instructions will be given to ship's staff during the arrival conference.

b. Radar Operating Restrictions and Guidance

(1) To avoid harmful interference to TV Channel 13 (210-216 MHz), a minimum of 6 MHz frequency separation shall be maintained when operating within 40 NM of the following TV stations: WJZ-Baltimore, MD; WVEC-Hampton, VA; and WNBE-New Bern, NC. Further, radar which is capable of operation in the 216-225 MHz range and has a center operating frequency near 220 MHz shall not be operated above 225.0 MHz.

(2) Restrictions to radar operating in the 1215-1400 MHz frequency range: when within 100 NM radius of Norfolk, VA, radars shall not be operated in the 1255-1361 MHz range. This restriction is necessary to minimize interference with the Federal Aviation Administration (FAA) air traffic control except TAS radars that will use the following frequencies: 1383 MHz, 1385 MHz, 1387 MHz and no others. Coordination messages for tactical air support (TAS) radar operations will include Joint Frequency Management Office, Atlantic (JFMO LANT NORFOLK VA), as an INFO addee and include in the text the period of radiation, location, frequencies, radar Pulse Repetition Frequency (PRF) and Identification Friend or Foe (IFF) PRF.

(3) Operation of radar in the 2700-2900 MHz frequency within a 100 mile range of an FAA air traffic control radar or within 20 miles of any U.S. military site employing 2700-2900 MHz air traffic control radar, shall request prior radiation authorization by coordination with the appropriate SOPA (ADMIN) Subarea. The following FAA and military sites employ air traffic control radar in the 2700-2900 MHz range:

(a) MCB, Camp LeJeune, NC

(b) MCAS, Cherry Point, NC

(c) MCAS (H), New River, NC

(d) NAS Oceana, VA

(e) FAA, Norfolk Regional, Norfolk, VA

(f) Langley AFB, Hampton, VA

(g) FCTCLANT, Dam Neck, VA

(h) FAA, Newport News, VA

(i) CGAS, Elizabeth City, NC

(j) NAS Patuxent River, MD

(k) MCAS, Quantico, VA

(l) FAA, Washington, DC

(4) Fleet radar having a tuning capability throughout the 8500-9600 MHz range should be tuned to avoid the 9000-9200 MHz band when operating within possible interference range (10 miles) of ground precision approach control activities; i.e., Chambers Field at NAVSTA Norfolk, Norfolk International Airport, and NAS Oceana.

(5) Operation of radar which constitute a HERO during ordnance handling operations on board ship, or in the vicinity of such handling operations, shall take action as prescribed in the local installation's HERO Bill.

(6) Radiation of shipboard radar in harbors for test purposes will not be conducted without prior approval as outlined in para (d).

(7) Shipboard interrogators and transponders used for tactical operations shall be in accordance with tactical doctrine. However, when operational use or maintenance permits, interrogators and transponders should be placed in a non-radiating, radiating into a dummy load, during inport periods or when operating in coastal areas of the United States where there is extensive use of Air Traffic Control Radar Beacon System (ATCRBS) and military IFF.

(8) Periods of radar EMCON in the NAVSTA Norfolk area are:

(a) Piers 02-12	Thursday	0730-Sunset
(b) Piers 20-25	Monday	1200-Sunset
	Thursday	0730-Sunset
	Friday	0730-1200

Additional information on EMCON conditions is contained in the local installation's HERO Bill.

(9) The radiating activity shall ensure that any radiation hazard to personnel, ordnance, or fuel on adjacent ships and piers is taken into consideration.

(10) Potential harmful interference coordination is the responsibility of, and shall be initiated by, the activity capable of causing harmful interference.

(11) To avoid or minimize harmful interference in the 200-40,000 MHz frequency range with other government activities and non-government agencies in the Norfolk and Virginia Capes area, necessary coordination shall be made with NAVSTA Norfolk as delineated below.

c. Identification Friend or Foe (IFF) Interrogator and Transponder Usage Criteria. Unauthorized use of IFF equipment inport in the Hampton Roads Area by Navy ships and aircraft causes a very serious safety hazard to local aircraft operations. Unauthorized IFF transmission from ships and craft in Hampton Roads waterways activate the traffic alert and collision avoidance system (TCAS) of commercial air carriers and could require flight crews to initiate evasive maneuvering requiring erratic flight control inputs during extremely critical phases of flight (approach, landing, and takeoff) at Norfolk International Airport. All commands will take positive action to ensure IFF systems are not activated by ships in port, ships entering/leaving port, aircraft on the ground not preparing to take off, or aircraft embarked on ships in port. Ships arriving/departing Hampton Roads must not squawk Mode C or any Mode Three code. Additionally, ships within 13 NM of the shoreline (west of Chesapeake light) must place both Mode 3A and Mode C to the out position on the transponder control unit. U.S. military aircraft may use IFF in these areas as safety of flight dictates.

(1) Operation of IFF Transponders/Interrogators for preventative maintenance and routine repairs shall be restricted to radiation into AN/UPM 70 or equivalent test set which permits no radiation to ships exterior.

(2) Testing Requirements/Procedures

(a) Radiation of shipboard IFF in harbors for test purposes will not be conducted without prior approval as outlined in paragraph (d).

1. To facilitate performing INSURV checks on IFF equipment a test code (Mode 2, Code X276 or Mode 4 only) must be used. Use of the test code is not to exceed 30 minutes duration. Upon approval of request, the ship will notify via phone to NAVSTA Norfolk Port Operations and the Norfolk Federal Aviation Administration air traffic control supervisor one hour prior to commencement of test, with the following information:

a. Ships name

b. Hull number

c. Pier and berth

d. Name of individual supervising test

e. Phone number where test supervisor can be immediately reached.

f. Ship's quarterdeck number

g. Planned start and stop time

(b) Upon receiving a ship's request to conduct an IFF test, NAVSTA Norfolk Port Operations will remind the ship not to squawk Mode 3A/C.

(c) The ship will notify Port Operations and the FAA supervisor when testing is complete or if the test time needs to be extended.

(d) Both Port Operations and the FAA supervisor have the authority to delay test start time if a current situation (i.e. ships in close proximity conducting similar test during the same time frame, an air traffic density overload, extreme weather condition, etc.) would cause a significant problem to the FAA.

(e) When an IFF interference problem occurs, FAA will notify NAVSTA Norfolk Quarterdeck. NAVSTA Norfolk Command Duty Officer (CDO) will then initiate action with Port Operations for all ships to be notified by telephone or bridge-to-bridge to check their equipment. The Port Operations Duty Officer and Duty ET will use IFF tracking/identification equipment to isolate the IFF offender. If the problem is not resolved within ninety minutes, NAVSTA Norfolk Port Operations will request the assistance of the Federal Communications Commission (FCC) to assist in identifying the offender. NAVSTA Norfolk CDO will send an immediate action message to all ships, tasking them to physically verify all IFF equipment is secured, and respond by message upon completion of equipment verification.

d. Radar Radiation/IFF Notification Requirements. To request and to coordinate radar radiation/IFF, a message request shall be originated. This message shall reach the addressees three working days in advance of requested emission time in the following format:

FM ORIGINATOR
TO SOPA ADMIN NORFOLK/LITTLE CREEK/PORTSMOUTH/YORKTOWN SUBAREA VA as appropriate//POO//
INFO (chain of command as appropriate)

CCGDFIVE PORTSMOUTH VA
NCTAMS LANT NORFOLK VA//N3/N5/N52//
NAS OCEANA VA//30//
NAS OCEANA AIR DET NORFOLK VA//30//
WALLOPS FLIGHT FACILITY NASA WALLOPS ISLAND VA
1FW CP LANGLEY AFB VA//CC/MA//
JFMO LANT NORFOLK VA//N3//
BT
UNCLAS //N02450//
MSGID/GENADMIN/(originator)//
SUBJ/RADAR RADIATION REQUEST//
REF/A/DOC/COMNAVREG MIDLANT/(date)//
AMPN/REF A IS COMNAVREGMIDLANT/SOPA(ADMIN)HRINST 5400.1 SERIES (SOPA MANUAL) ARTICLE 3521.1.
RMKS/1. IAW REF A REQUEST TO RADIATE RADARS AS FOLLOWS:
A. EQUIPMENT TYPE AND FREQUENCY:
B. DATE AND TIMES:
C. APPROXIMATE DURATION:
D. SHIPS LOCATION (ANCHORAGE, STATION, YARD, PIER/BERTH) AND DIRECTION OF RADIATION (SECTOR BY DEGREES TRUE):
2. STOP BUZZER POC: TEL: .//

3521.2 Communication and Radar Electromagnetic Radiation Control (EMCON)

a. EMCON/HERO at NAVSTA Norfolk Piers. To provide routine periods for transfer and/or other ordnance handling operations, HERO restrictions are imposed on ships, craft and vehicles berthed or operating at or in the immediate vicinity of NAVSTA Norfolk, NAVPHIBASE Little Creek and WPNSTA Yorktown piers as specified in the respective installation's HERO Bill.

b. Conduct of EW/AAW Drills. EMCON periods are normally set each Wednesday for the conduct of EW/AAW or ESM drills by ships principally in the Norfolk Subarea, Hampton Roads. During these periods all naval ships present in the Hampton Roads Area shall observe complete radar silence.

3521.3 Collimation Services Available to Ships in the Hampton Roads Area

a. General. Collimation of Gun Fire Control Radar and Missile Guidance Radar are done with portable collimation towers. To arrange for collimation services contact: Fleet Technical Support Center Atlantic (FTSCLANT), Code 4221.

b. Requirements. Portable towers need wind speed less than 15 KTS; clear line of sight from the radar to the tower; no threat of lightning storms or severe weather present; and level ground in order to raise the tower located 800 to 1,600 feet from radar.

c. Shipyard Facilities. NAVSHIPYD Norfolk has a tower on the roof of Building 369 for ships at Piers 4, 5 and 6. NAVSHIPYD Norfolk operates collimation towers for ships in the yard. Collimation services may be requested in accordance with COMNAVSURFLANTINST 9000.0 series.

d. Missile Radar Collimation. Ship collimation of missile radar by straight line radiation with director in positive manual control may be authorized, provided that no exposed ASROC/ASTOR transfer/handling is scheduled at the same pier, during standing or special EMCON established at NAVSTA Norfolk piers by UNODIR message for COMREGSUPPGRU NORFOLK VA to SOPA ADMIN NORFOLK SUBAREA, INFO COMNAVREG MIDLANT NORFOLK VA//N30//.