



DEPARTMENT OF THE NAVY
FLEET AREA CONTROL AND SURVEILLANCE
FACILITY, VIRGINIA CAPES
601 OCEANA BLVD
VIRGINIA BEACH, VA 23460-2283

FACSFACVACAPESINST 3120.1N
N3
15 Sep 15

FACSFAC VACAPES INSTRUCTION 3120.1N

From: Commanding Officer, Fleet Area Control and Surveillance
Facility, Virginia Capes

Subj: MANUAL FOR THE UTILIZATION OF FLEET AREA CONTROL AND
SURVEILLANCE FACILITY, VIRGINIA CAPES OPERATING AREAS
(FACSFAC VACAPES OPERATIONS MANUAL)

Ref: (a) COMUSFLTFORCOMINST 3120.26 (series)
(b) COMUSFLTFORCOMINST 3502.2 (series)
(c) COMNAVAIRLANTINST 8840.1 (series)
(d) COMNAVAIRFORINST 3100.1 (series)
(e) VACAPES RANGE COMPLEX FINAL ENVIRONMENTAL IMPACT
STATEMENT/OVERSEAS ENVIRONMENTAL IMPACT STATEMENT
March 2009
(f) FACSFACVACAPESINST 3710.1 (series)
(g) NAVAL AIR WARFARE CENTER RANGE SAFETY BRANCH WEBSITE
(h) FACSFAC VACAPES LASER RANGE SAFETY CERTIFICATION
REPORT 24MAR15

Encl: (1) OPERATIONS MANUAL

1. Purpose. To provide a single source of up-to-date information and procedural guidance for the use of Fleet Area Control and Surveillance Facility, Virginia Capes (FACSFAC VACAPES) Operating Areas (OPAREAs), Special Use Airspace (SUA), and services.

2. Cancellation. FACSFACVACAPESINST 3120.1M and FACSFACVACAPESINST 8800.1C.

3. Authority. In accordance with references (a) through (f), FACSFAC VACAPES coordinates services and operations, makes area assignments, schedules land targets, ensures promulgation of firing notices, issues weekly target and OPAREA schedules, and prescribes necessary additional regulations governing matters within its area of responsibility.

15 Sep 15

4. Action. All users of FASCFAC VACAPES OPAREAs shall observe the procedures and restrictions set forth in this instruction.

5. Review Responsibility. The Operations Officer is responsible for the periodic review and update of this instruction.

A handwritten signature in black ink, consisting of several overlapping loops and a final flourish.

F. R. LICKFOLD IV

OPERATIONS MANUAL



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TABLE OF CONTENTS

CHAPTER I - GENERAL PROCEDURES

101	GENERAL INFORMATION	1-1
101.1	FACSFAC VACAPES OPERATING AREAS	1-1
101.2	UNDERSEA WARFARE (USW) INVESTIGATIVE FORCES	1-4
101.3	ACTIVE DRUG INTERDICTION	1-4
101.4	SEARCH AND RESCUE MISSIONS (SAR)	1-5
101.5	LINK COORDINATION	1-5
102	GENERAL REGULATIONS	1-5
102.1	AREA CLEARANCE	1-6
102.2	AREA ASSIGNMENT TIMES	1-6
102.3	OFFICER CONDUCTING EXERCISE (OCE) RANGE RESPONSIBILITIES	1-7
103	COMMUNICATIONS	1-8
103.1	COMMUNICATION OF VITAL INFORMATION	1-8
103.2	MOVEMENT REPORTS (MOVEREPS)	1-8
103.3	OPERATIONAL ORDERS (OPORDERS)	1-8
103.4	FACSFAC VACAPES RADIO COMMUNICATIONS	1-8
103.5	COMMUNICATIONS PROCEDURES FOR EXERCISES INVOLVING AIRCRAFT	1-9
103.6	AIRCRAFT PENETRATION AND OPERATION WITHIN THE ATLANTIC AIR DEFENSE IDENTIFICATION ZONE (ADIZ)	1-11
104	AIR TRAFFIC CONTROL (ATC) PROCEDURES	1-11
104.1	FLIGHT PROCEDURES	1-12
104.2	INTERCEPTOR OPERATIONS	1-15
104.3	MILITARY AIRSPACE BOUNDARY INTEGRITY	1-15
104.4	SAR ON-SCENE COMMANDER PROCEDURES	1-16
104.5	CARRIER AIR WING FLY-OFFS	1-16
104.6	SPECIAL EXERCISES	1-16
104.7	FLIGHT PLAN FILING	1-16
104.8	AIRSPACE USERS BRIEF	1-17
104.9	MILITARY TRAINING ROUTES (MTR)	1-17
104.10	TRAFFIC AND COLLISION AVOIDANCE SYSTEM (TCAS)	1-18
105	LARGE AREA TRACKING RANGE (LADR)	1-18

CHAPTER II - AIR, SURFACE, AND SUBSURFACE OPERATING AREAS

201	GENERAL	2-1
202	VIRGINIA CAPES OPERATING AREA (VCOA)	2-2
202.1	VCOA AIR OPERATING AREAS	2-2
202.2	VCOA SURFACE OPERATING AREAS	2-5
202.3	VCOA SUBMARINE OPERATING AREAS (SUBOAs)	2-6
203	ATLANTIC CITY OPERATING AREA (ACOA)	2-6
203.1	ACOA AIR OPERATING AREAS	2-13
203.2	ACOA SURFACE OPERATING AREAS	2-14
203.3	ACOA SUBMARINE OPERATING AREAS (SUBOAs)	2-14
203.4	ACOA EMPLOYMENT	2-14
204	NARRAGANSETT BAY OPERATING AREA (NBOA)	2-15
204.1	NBOA AIR OPERATING AREAS	2-15
204.2	NBOA SURFACE OPERATING AREAS	2-17
204.3	NBOA SUBMARINE OPERATING AREAS (SUBOAs)	2-17
204.4	NBOA EMPLOYMENT	2-18
205	CHERRY POINT OPERATING AREA (CPOA)	2-18
205.1	CPOA AIR OPERATING AREAS	2-18
205.2	CPOA SURFACE OPERATING AREAS	2-22
205.3	CPOA SUBMARINE OPERATING AREAS (SUBOAs)	2-22
205.4	CPOA EMPLOYMENT	2-22
206	BOSTON OPERATING AREA	2-23
206.1	BOSTON AIR OPERATING AREAS	2-23
206.2	BOSTON SURFACE OPERATING AREAS	2-23
206.3	BOSTON SUBMARINE OPERATING AREAS (SUBOAs)	2-23
206.4	BOSTON EMPLOYMENT	2-23
207	BERMUDA OPERATING AREA	2-23
207.1	BERMUDA AIR OPERATING AREAS	2-24
207.2	BERMUDA SURFACE OPERATING AREAS	2-24
207.3	BERMUDA SUBMARINE OPERATING AREAS (SUBOA)	2-24
208	SEVERE WEATHER AVOIDANCE PLAN(SWAP)	2-24
209	MILITARY OPERATIONS AREAS (MOA)	2-25

**CHAPTER III - REQUESTING, SCHEDULING, CANCELING, AND
COORDINATING OPAREAS, SERVICES AND TARGETS**

301	GENERAL	3-1
302	REQUEST FORMAT	3-1
303	ALTERNATE REQUEST PROCEDURES	3-2
304	OPERATING/WARNING AREA REQUEST REQUIREMENTS	3-2
305	SERVICE REQUEST REQUIREMENTS	3-4
305.1	CONTRACTED AIR SERVICES (CAS)	3-5
305.2	DRONE/SURFACE TARGET SERVICES	3-5
306	TARGET RANGE REQUEST REQUIREMENTS	3-5
307	HATTERAS B EAST AND WEST ATCAAS AND PAMLICO A/B MOA REQUEST REQUIREMENT	3-6
308	CHANGE REQUESTS	3-6
309	CANCELING REQUESTS	3-7
310	CANCELING BACK-UP EVENTS	3-7
311	OPERATING SCHEDULE	3-7
311.1	SCHEDULING PRIORITIES	3-8
311.2	PACFIRE SCHEDULING	3-8
311.3	REAL-TIME SCHEDULING	3-8
312	EVENT COORDINATION	3-8
313	AIRCRAFT CARRIER AIRSPACE COORDINATION MEETINGS	3-9

CHAPTER IV – MISSILE FIRING EXERCISE PROCEDURES

401	GENERAL	4-1
401.1	DEFINITION OF TERMS	4-1
401.1.1	AIR-TO-AIR MISSILE EXERCISE TERMINOLOGY	4-2
401.1.2	SURFACE-TO-AIR MISSILE EXERCISE TERMINOLOGY	4-3
401.1.3	AIR-TO-SURFACE MISSILE EXERCISE TERMINOLOGY	4-4
401.1.4	HARPOON MISSILE EXERCISE TERMINOLOGY	4-4
402	MISSILE EXERCISE REQUESTS	4-4
402.1	TARGETS	4-5
402.2	EXERCISE AREAS	4-5
402.3	LASER OPERATIONS	4-5
402.4	TELEMETRY	4-5
403	MISSILE EXERCISE SCHEDULING	4-5
404	PARTICIPATING UNITS AND RESPONSIBILITIES	4-5
405	LETTER OF INSTRUCTION (LOI)	4-6
406	PRE-MISSILE EXERCISE BRIEFINGS	4-6
407	RANGE SAFETY	4-7
407.1	WAIVER OF RANGE SAFETY CRITERIA	4-8
407.2	RANGE CLEARANCE FACTORS	4-8
407.3	TERMINATION/DELAY OF EXERCISE	4-8

15 Sep 15

408	MISSILE EXERCISE PROCEDURES_____	4-8
408.1	ADDITIONAL REQUIREMENTS FOR AIR-TO-AIR EVENTS._____	4-8
408.2	SAFETY OBSERVERS_____	4-9
408.3	RANGE SURVEILLANCE AND SAFETY RESPONSIBILITIES_____	4-9
408.4	BQM-74 TARGET PROCEDURES_____	4-11
408.5	TALD/ITALD_____	4-11
409	HARPOON PROCEDURES_____	4-15
410	HARM PROCEDURES_____	4-16
411	AIR-TO-AIR MISSILES_____	4-16
411.1	MISSILE HAZARD AREA_____	4-12
411.2	RANGE SAFETY OPERATIONAL PLANS_____	4-12
411.3	RANGE SAFETY APPROVALS_____	4-12
411.4	RANGE CLEARANCE REQUIREMENTS_____	4-12
411.5	TARGETS_____	4-12
411.6	ENVIRONMENTAL IMPACT_____	4-12
412	AIR-TO-SURFACE MISSILES_____	4-13
412.1	MISSILE HAZARD AREA_____	4-13
412.2	RANGE SAFETY OPERATIONAL PLANS_____	4-13
412.3	RANGE SAFETY APPROVALS_____	4-13
412.4	RANGE CLEARANCE REQUIREMENTS_____	4-13
412.5	TARGETS_____	4-13
412.6	ENVIRONMENTAL IMPACT_____	4-13
413	SURFACE-TO-SURFACE MISSILES_____	4-13
413.1	MISSILE HAZARD AREA_____	4-13
413.2	RANGE SAFETY OPERATIONAL PLANS_____	4-13
413.3	RANGE SAFETY APPROVALS_____	4-13
413.4	RANGE CLEARANCE REQUIREMENTS_____	4-13
413.5	TARGETS_____	4-13
413.6	ENVIRONMENTAL IMPACT_____	4-13
414	SURFACE-TO-AIR MISSILES_____	4-14
414.1	MISSILE HAZARD AREA_____	4-14
414.2	RANGE SAFETY OPERATIONAL PLANS_____	4-14
414.3	RANGE SAFETY APPROVALS_____	4-14
414.4	RANGE CLEARANCE REQUIREMENTS_____	4-14
414.5	TARGETS_____	4-14
414.6	ENVIRONMENTAL IMPACT_____	4-14

CHAPTER V - FLIGHT IN INTERNATIONAL AIRSPACE

501	POLICY_____	5-1
502	INTERNATIONAL AIRSPACE_____	5-1
503	OFFSHORE AIRSPACE_____	5-1
504	OFFSHORE CONTROLLED AIRSPACE_____	5-2
505	OFFSHORE AIRSPACE PROCEDURES_____	5-2
506	OCEANIC AIRSPACE_____	5-2
507	OCEANIC OPERATIONS NOT CONDUCTED UNDER ICAO PROCEDURES (DUE REGARD/OPERATIONAL)_____	5-3
508	OCEANIC OPERATIONS CONDUCTED USING IFR FLIGHT PLANS_	5-3
509	AIR REFUELING WITHIN NEW YORK OCEANIC AIRSPACE_____	5-4

CHAPTER VI - OCEANIC AIRSPACE COORDINATION (OAC) PROCEDURES

601	GENERAL_____	6-1
602	RESPONSIBILITY_____	6-1
603	ALTITUDE RESERVATION (ALTRV)_____	6-1
604	OFFSHORE AIRSPACE_____	6-1
605	OCEANIC AIRSPACE_____	6-1
606	REQUEST FORMAT_____	6-2
607	DUE REGARD/OPERATIONAL_____	6-2
608	FACSFAC VACAPES OAC OSRA_____	6-3

CHAPTER VII - CARRIER AIR WING FLY-OFF PROCEDURES

701	BACKGROUND_____	7-1
702	PLANNING STAGE_____	7-1
703	FLY-OFF_____	7-3

CHAPTER VIII - LASER OPERATIONS

801	GENERAL INFORMATION_____	8-1
802	OPAREA/WARNING AREA REQUEST REQUIREMENTS_____	8-1
803	LASER TRAINING AREAS (LTAs)/LASER TARGET AREAS (TAs)___	8-1
804	LASING AREA RESTRICTIONS_____	8-1
805	LASER SAFETY REVIEW BOARD (LSRB) LETTERS_____	8-1
806	AIR SAFE LASING PROFILES_____	8-2
807	LASER RADIATION ACCIDENT/INCIDENT REPORTING_____	8-2

**CHAPTER IX – JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM
(JTIDS)/LINK 16 OPERATIONS**

901	GENERAL INFORMATION_____	9-1
902	SCHEDULING JTIDS/LINK-16_____	9-1
903	JTIDS VOICE (JVOICE)_____	9-2
904	SCHEDULING PRIORITIES_____	9-2

CHAPTER X – UNMANNED AIRCRAFT SYSTEM (UAS) OPERATIONS

1001	GENERAL INFORMATION_____	10-1
1002	PROCEDURES FOR UAS OPERATIONS_____	10-1
1003	DEFINITIONS_____	10-1
1004	RESPONSIBILITIES_____	10-1
1005	PROCEDURES FOR UAS OPS AS PART OF A LARGE FORCE EX_____	10-3

APPENDICES

APPENDIX A	BIBLIOGRAPHY_____	A-1
APPENDIX B	FACILITY PHONE NUMBERS_____	B-1
APPENDIX C	DEFINITIONS AND ABBREVIATIONS_____	C-1
APPENDIX D	OPAREA SCHEDULING PRIORITIES_____	D-1
APPENDIX E	EXAMPLE TARGET REQUEST MESSAGE_____	E-1
APPENDIX F	EXAMPLE OPAREA REQUEST MESSAGE_____	F-1
APPENDIX G	EXAMPLE JTIDS/LINK-16 REQUEST MESSAGE_____	G-1
APPENDIX H	UNMANNED AIRCRAFT SYSTEM REQUEST_____	H-1
APPENDIX I	STANDARD LETTER OF INSTRUCTION FOR SURFACE -TO-SURFACE/SURFACE-TO-AIR MISSILEXs CONDUCTED IN FACSFAC VACAPES OPAREAS_____	I-1
APPENDIX J	STANDARD LETTER OF INSTRUCTION AIR-TO-AIR/ AIR-TO-SURFACE MISSILEXs CONDUCTED IN FACSFAC VACAPES OPAREAS_____	J-1
APPENDIX K	STANDARD SAFETY BRIEFING GUIDE FOR MISSILE EXERCISES_____	K-1
APPENDIX L	MEMORANDUM OF AGREEMENT (MOA) BETWEEN COMMANDING OFFICER, FACSFAC VACAPES AND DESIGNATED RANGE CONTROL OFFICER; REQUIREMENTS AND DESIGNATION LETTER_____	L-1
APPENDIX M	FLEET AREA CONTROL AND SURVEILLANCE FACILITY, VIRGINIA CAPES AND UNIT OR ORGANIZATION LETTER OF AGREEMENT FOR DRONE EXERCISE INTER-FACILITY COORDINATION PROCEDURES_____	M-1
APPENDIX N	TARGETS AVAILABLE FOR MISSILE EXERCISES_____	N-1
APPENDIX O	FACSFAC RANGE COORDINATES AND FIGURES_____	O-1

CHAPTER I

GENERAL PROCEDURES

101. GENERAL INFORMATION. Fleet Area Control and Surveillance Facility (FACSFAC VACAPES) is located in Building 3030 on Oceana Boulevard, north of the main gate of NAS Oceana.

Mailing Address: (SNDL 26JJ1)

Commanding Officer
FACSFAC VACAPES
601 Oceana Boulevard
Virginia Beach, Virginia 23460-2283

Admin Telephone: See Appendix B.

Message Address: FACSFAC VACAPES OCEANA VA

Radio Call Sign: GIANTKILLER

101.1. FACSFAC VACAPES Operating Areas. FACSFAC VACAPES has cognizance over the following areas:

- a. Operating Areas (OPAREAs) (surface and subsurface).

NOTE: * Indicates that COMSUBLANT is Variable Depth Sonar (VDS) coordinator for this area.

1. Boston* (BOA): Areas 1 through 14.
2. Narragansett Bay (NBOA): Areas 1 through 28.
3. Atlantic City (ACOA): Areas 1 through 14.
4. VACAPES (VCOA): W-72 (1A-3E, 1F-2F, Areas 13 and 20), W-110 (4A-4D), W-386 (A-L), and Danger Area (D-334.390).
5. Cherry Point (CPOA): Areas 1 through 23.
6. Bermuda*: Surface areas Echo, Fox, and Hotel.

b. Warning Areas (airspace). W-50, W-72, W-105, W-106, W-107, W-110, W-122, W-386, W-387 and around Bermuda there is W-3014, W-3015, and W-3018.

c. Restricted Areas.

1. R-5301 Harvey Point (Surface to 14,000 feet MSL)
2. R-5302A Albermarle, NC (Surface to 14,000 feet MSL)
3. R-5302B Albermarle, NC (100 feet AGL to 14,000 feet MSL)
4. R-5302C Albermarle, NC (100 feet AGL to 3,000 feet MSL)
5. R-5313A Stumpy Point (Surface to 18,000 feet MSL)
6. R-5313B Stumpy Point (100 feet AGL to 13,000 feet MSL)
7. R-5313C Stumpy Point (100 feet AGL to 13,000 feet MSL)
8. R-5313D Stumpy Point (500 feet AGL to 13,000 feet MSL)
9. R-5314D Dare County (Surface to FL 205)
10. R-5314E Dare County (500 feet above the surface to FL 205)
11. R-5314F Dare County (200 feet above the surface to 15,000 feet MSL)
12. R-6606 Dam Neck (Surface to and including 51,000 feet MSL)

d. Delegated Airspace.

1. Atlantic Route 8 (AR-8)
2. Atlantic Route 9 (AR-9)

e. Inland Flight Areas.

1. Military Operations Areas (MOAs)/Corridors:
 - a. SELFEX Corridor (CSFWL aircraft only) (13,000FT-16,000FT)
 - b. Pamlico A and Pamlico B (8,000 FT-17,999 FT)
 - c. Stumpy Point (Surface to 7,999 FT)
 - d. Phelps A (6,000 FT-17,999 FT), Phelps B(10,000 FT-17,999 FT), and Phelps C (15,000 FT-17,999 FT)
 - e. Dare Corridor (11,000 FT-FL230)

2. Hatteras Bravo (HATT B) East (FL180-FL290 excluding restricted airspace), Hatteras Bravo West (FL180-FL290) Air Traffic Control Assigned Airspaces (ATCAA)

f. Tactical Combat Training System (TCTS) Range. The TCTS Range is located in the southwestern portion of W-72. It is scheduled exclusively by Commander, Strike Fighter Wing Atlantic (CSFWL) Monday-Friday (0700-2300 Local), and is used for air combat maneuvering (ACM). The TCTS Range airspace consists of the following areas:

1. W72(2A) 5,000 MSL TO FL500 (North TCTS)
2. W72(2B) 5,000 MSL TO FL500 (North TCTS)
3. W72(3A) 5,000 MSL TO FL500 (South TCTS)
4. W72(3B) 5,000 MSL TO FL500 (South TCTS)

NOTE: TCTS flights are tracked by computerized equipment located at NAS Oceana. CSFWL is responsible for scheduling the range during the week.

g. Additional Tactical Combat Training Exclusive Airspace. W-72 2C/3C/2D/3D may be scheduled as exclusive use air space for CSFWL Monday-Friday (0700-2300 Local). Due to the exclusive scheduling nature of ACM there will be no time extensions granted.

NOTE: When not in use by CSFWL, the range is available for concurrent use, and can be scheduled on a real time basis by FACSFAC VACAPES.

h. Air Refueling Tracks.

1. AR-636 Flight Information Publication (FLIP) published air-refueling track is located in W-387, FL200 to 290. Scheduled by the First Fighter Wing, Langley AFB, VA.

2. AR-81 FLIP published air-refueling track is located in W-105, FL180 to280. Scheduled by the Eastern Air Defense Sector, Rome, NY.

i. Airborne Warning Tracks.

1. AW-700 located in W-72, altitude as assigned. Track is 12.5 NM either side of a line connecting the following Lobe Points:

- a. 36°25'00"N/074°03'30"W
- b. 36°25'00"N/073°26'36"W

2. AW-701 located in W-387, altitude as assigned. Track is 10 NM around easternmost point and 12 NM around westernmost point either side of a line connecting the following Lobe Points:

- a. 36°57'00"N/072°58'30"W
- b. 36°57'00"N/073°43'00"W

3. AW-702 located west of W-122 in the Hatteras ATCAA, altitude as assigned. Track is 12.5 NM either side of a line connecting the following Lobe Points:

- a. 35°28'00"N/076°04'00"W
- b. 34°52'00"N/076°42'00"W

4. AW-703 located in W-122 AIR 2-7, altitude as assigned. Track is 15 NM either side of a line connecting the following Lobe Points:

- a. 34°47'00"N/075°22'00"W
- b. 34°17'00"N/074°49'00"W

5. AW-710 located in W-105A, altitude as assigned. Track is 12.5 NM either side of a line connecting the following Lobe Points:

- a. 40°15'00"N/072°09'00"W
- b. 39°58'00"N/071°28'00"W

6. AW-712 located in W-107A, altitude as assigned. Track is 12.5 NM either side of a line connecting the following Lobe Points:

- a. 38°40'00"N/072°44'00"W
- b. 38°12'00"N/072°50'00"W

j. Lights Out Operations. Due to the hazardous nature of “Lights out operations” to non-participating aircraft, participants will be required to check in as “lights out ops” not “non-standard ops.” This is to avoid confusion for the controllers and to ensure they are aware that “lights out ops” are being conducted. Lights out operations are scheduled as exclusive air operations and will only be conducted in the scheduled exclusive area. Upon exiting the exclusive area or finex of the event, the aircraft will return to normal lighting and report “standard ops” to FACSFAC VACAPES.

101.2. Undersea Warfare (USW) Investigative Forces. It is possible that unidentified or hostile submarines will be reported within the OPAREAs. If this occurs, all units shall be moved, and any ongoing exercises or events shall be canceled.

101.3. Active Drug Interdiction. An aircraft participating in active drug interdiction shall have priority over all operations except a Search and Rescue (SAR), a medical evacuation (MEDEVAC), or an active USW investigation.

101.4. Search and Rescue Missions (SAR). Upon notification from the U.S. Coast Guard of an active SAR mission within the FACSFAC VACAPES area of responsibility (AOR), FACSFAC VACAPES will notify all known units operating within a 50 mile radius of the designated search site. This notification, normally conducted via HF Primary (Pri), SIPR Chat (Sec), or SATHICOM (Ter), is intended only to increase the situational awareness of unit commanders that an active SAR mission is in proximity of their unit.

a. USCG LANTAREA COMMAND (Portsmouth, VA) is the overall East Coast SAR Coordinator and is responsible for assigning Coast Guard assets to conduct the search and rescue mission. Aviation capable platforms may be queried to ascertain their availability/capability to provide support (lily pad, emergency medical facilities, or additional SAR assets/platforms).

NOTE: It is important to remember that this will be an unofficial query only and not a request for assistance. Status of this query will be provided to the Coast Guard.

b. USCG LANTAREA COMMAND will coordinate with Commander, US Fleet Forces Command's (COMUSFLTFORCOM) Battle Watch Commander to make an official request for assistance with the SAR evolution at the Coast Guard's request. The decision to participate rests with the unit's Commanding Officer or their operational chain of command.

c. Active SAR and MEDEVAC events take precedence over other scheduled operations. All events will be deconflicted by waterspace, airspace, altitude, or time with the SAR Mission Commander, FFVC Area Coordinator and the FFVC Facility Watch Supervisor

101.5. Link Coordination.

a. LINK 11. In accordance with CTF 80 OPTASK Link and COMUSFLTFORCOM Cruising Instruction messages, all Fleet ships and aircraft shall participate in the CTF 80 Link with USFF and FACSFAC VACAPES while operating within the boundaries of the FACSFAC VACAPES OPAREAs. FACSFAC VACAPES is able to provide J-REAP C and 24 hour High Frequency (HF) Link 11 services to all capable units. While participating in strike group link operations within FACSFAC VACAPES OPAREAS, ships are exempt from requirements of establishing LINK 11 with FACSFAC VACAPES unless required by USFF JICO or desired by the battle group JICO.

b. LINK 16 (JTIDS). See chapter IX for JTIDS/LINK-16 operations.

102. GENERAL REGULATIONS. All range safety precautions and regulations contained in ref (c) shall apply in the OPAREAs. FACSFAC VACAPES imposes some additional safety requirements, which may be waived by the FACSFAC VACAPES Commanding Officer as the situation dictates.

NOTE: Protective Measures Assessment Protocol (PMAP) use is mandatory for all fleet training events. Commanders must ensure that their commands are using the current version of PMAP.

102.1. Area Clearance. The following general rules apply to area clearances within FACSFAC VACAPES OPAREAs:

- a. The dropping of any ordnance, live or inert, or live fire is considered a hazardous event.

NOTE: All hazardous or exclusive operations and exercises conducted in FACSFAC VACAPES OPAREAs require clearance from FACSFAC VACAPES 72 hours in advance or scheduled in a real time hot area (W-50 (surface to 5,000 MSL), W-386 Surface Grids K1-K4 (surface to 5,000 MSL), W-72 Surface Grids 3B1-3B4 (surface to 4,000 MSL) as outlined in para 102.2.

1. The firing or dropping of ordnance must be scheduled with FACSFAC VACAPES.
2. Firing exercises are not authorized without prior FACSFAC VACAPES approval.

3. Small arms (munitions .50 caliber and under to include AT/FP crew-served weapons M60, M240, M-38, and MK-14 40 MM grenade launcher) qualifications on ships do not require FACSFAC VACAPES approval but require notification through FFVC Area Coordinator via Primary HF (primary), and SIPR chat (secondary). The unit conducting small arms fire is responsible for clearing the area.

b. Non-hazardous/concurrent air, surface, and subsurface operations such as Independent Steaming Exercise (ISE) transits, navigation drills, Deck Landing Qualifications (DLQ), helicopter operations, etc., do not require a specific clearance/message request. Flare drops are considered a non-hazardous event, but all airborne/surface units must contact FACSFAC VACAPES prior to deploying flares to prevent errant SAR reporting. Although not required, it is highly recommended that all aircraft schedule their events for concurrent air operations with FACSFAC VACAPES prior to entering the Warning Area.

NOTE: It is the responsibility of individual units and/or group Officer in Tactical Command (OTC)/Officer Conducting Exercise (OCE) to remain clear of HOT or exclusive areas.

c. Clearance for a surface area does not include the airspace above or the subsurface below. Airspace assignment does not include the surface below. Specific subsurface clearance is required for any subsurface operation.

102.2. Area Assignment Times. Events listed in the FACSFAC VACAPES operations schedule (OPSKED) are in ZULU time. Units desiring to schedule or modify a previously scheduled hazardous or exclusive event must provide FACSFAC VACAPES with a minimum of 72 working hours prior notification. The only exceptions to this rule are for events that are scheduled within:

- a. W-50 (surface to 5,000 MSL)

- b. W-386 Surface Grids K1-K4.
- c. W-72 Surface Grids 3B1-3B4 (surface to 4,000 MSL).

d. These areas have a 24 hour standing Notice to Mariners (NOTMAR) and can be real-time scheduled. Contact GIANTKILLER via HF Primary (4373.4 MHZ), SIPR CHAT, or call the Area Coordinator at commercial (757) 433-1320/1/2 or DSN 433-1320/1/2 (recorded line).

102.3. Officer Conducting Exercise (OCE) Range Responsibilities.

a. For all operations, the ultimate responsibility for the safe conduct of the exercise rests with the OCE. Local control of each operation is vested in the OCE.

b. An OCE shall be designated for all multiple unit exercises. For single unit exercises the OCE shall be the unit conducting the exercise. For air operations, the OCE may delegate responsibility to an airborne observer. The observer shall be so identified in the Letter of Instruction (LOI) or Pre-Exercise (PRE-EX) message.

c. In the event two or more exercise participants are utilizing the same servicing unit, the OCE shall coordinate utilization of the service.

d. All exercises shall be conducted in accordance with established operating procedures and safety criteria.

e. Exercises shall be conducted only in assigned areas. The OCE must ensure any unit providing a service remains within the assigned area. The OCE is responsible for requesting airspace/surface OPAREAs for the servicing unit.

f. The OCE shall ensure all exercise units operating in the FACSFAC VACAPES OPAREAs maintain a continuous guard on HF Primary 4373.4 (4372), SIPR CHAT, and Guard frequencies.

g. Any unit conducting firing or other hazardous activity shall ensure all possible safety precautions are taken to prevent accidental personnel injury or property damage. FACSFAC VACAPES shall promulgate Notices to Mariners (NOTMARs) as applicable. The OCE shall permit firing or jettisoning of aerial targets only when the area is confirmed to be clear of nonparticipating units, both civilian and military. Due to the density of pleasure/ fishing craft in the vicinity of D-334.390 (36°46'40"N, 075°57'24"W), special vigilance should be exercised by the OCE and all firing exercise participants to ensure the range is clear.

103. COMMUNICATIONS. Communications procedures established in this chapter are essential for efficient and safe operations within FACSFAC VACAPES OPAREAs and shall be adhered to by all units.

103.1. Communication of Vital Information. All units operating in the FACSFAC VACAPES OPAREAs shall maintain positive two-way communications (HF, VHF, UHF, or SIPRNET Chat) with FACSFAC VACAPES. Tactical call sign for FACSFAC VACAPES is GIANTKILLER.

103.2. Movement Reports (MOVEREPS). MOVEREPS shall not be considered a request for clearance within FACSFAC VACAPES OPAREAS and are not required by FACSFAC VACAPES.

103.3. Operational Orders (OPORDERS). Although OPORDERS are desired by FACSFAC VACAPES, they are not considered requests for clearance to operate in FACSFAC VACAPES OPAREAs.

103.4. FACSFAC VACAPES Radio Communications. FACSFAC VACAPES is the Net Control Station for Primary HF Coordination and continuously guards the following circuits: Primary HF Coordination 4373.4KHz (4372), Primary Link Coordination, SIPR Chat, and Fleet Satellite High Communications (SATHICOM).

NOTE: Refer to the current CTF-80 Operational Tasking Link Message (OPTASK LINK) for possible reassignment of frequency for Primary Link Coordination.

a. Units operating in FACSFAC VACAPES OPAREAs shall adhere to the following procedures:

1. Live firing/hazardous exercise communication requirements. Situations do occur that preclude a unit from conducting a scheduled live firing event (MEDEVAC/SAR). In the event that this happens, FACSFAC VACAPES will make every attempt to contact the unit on HF Primary/Link Coord per paragraph 103.4. All units conducting hazardous events are to ensure they are guarding these designated frequencies. Permission to fire or to conduct any hazardous event is granted to the Commanding Officer of the unit conducting the event providing all safety requirements have been met, a NOTMAR for the area has been issued, and the event was exclusively scheduled as a Hot Event by FACSFAC VACAPES.

2. Call signs from JANAP-119 (series) and squadron callsigns shall be used on FACSFAC VACAPES radio circuits, except for aircraft on routine missions which are in communication with FACSFAC VACAPES.

103.5. Communications Procedures for Exercises Involving Aircraft. The following procedures apply to all operations and exercises conducted within the FACSFAC VACAPES OPAREAs involving aircraft:

a. Aircraft exercise frequencies are assigned in the FACSFAC VACAPES OPSKED dummy events for which FACSFAC VACAPES provides commercial aircraft or range control services.

b. If a delay is anticipated in the arrival of an assigned service or if the service is canceled, the command providing the service shall notify Fleet Forces Atlantic Exercise Coordination Center (FFAECC). FFAECC will notify the unit receiving the service by voice or message.

c. All aircraft enroute to the OPAREAs shall inform FACSFAC VACAPES of event number, working area, and working unit. Aircraft working with Military Radar Units (MRU) and/or Airborne Radar Units (ARU) shall inform FACSFAC VACAPES on check-in. Aircraft working self-contained operations will be switched to their discrete frequency once established in the area. Aircraft shall monitor the common air frequency for the warning area in which they are operating, for advisories and containment alerts.

d. Aircraft cleared into FACSFAC VACAPES OPAREAs/Warning Areas to conduct operations with ships shall be under GIANTKILLER control until communications are established with, or the ship is in sight. At that time, a frequency change to the ship's control frequency will be approved. Aircraft shall contact GIANTKILLER immediately if an aircraft loses communications with the ship and cannot re-establish communications or at completion of the operation. Any aircraft requiring no IFF operations due to mission necessity shall, prior to takeoff, coordinate flight requirements with FACSFAC VACAPES to prevent unnecessary scrambles by Eastern Air Defense Sector (EADS). The following procedures shall be exercised:

1. After initial check-in with GIANTKILLER, prior to securing transponder and/or changing frequency, notify GIANTKILLER of the NM radius, altitude, and inbound heading of initial run for operation being conducted.

2. Upon completion of initial no transponder operation, recycle transponder and establish communications with GIANTKILLER.

Note: If multiple runs are being made, follow procedures as outlined above for each run. Aircraft below 5,000 feet MSL may be required to climb to at least 5,000 feet MSL to re-establish communications with GIANTKILLER.

e. All aviation capable units conducting air operations in FACSFAC VACAPES OPAREAs (including UAS Operations) shall contact FACSFAC VACAPES via SIPR Chat, HF 4373.4 KHZ (4372), or telephone (757)433-1230/31 a minimum of thirty (30) minutes prior to commencing flight operations and provide their first scheduled launch time and their scheduled Last Plane on Deck (LPOD) time. This notification is required in order to activate requested airspace with the FAA. Unless otherwise notified, FACSFAC VACAPES will turn Warning Area airspace back over to the FAA 30 minutes after the scheduled LPOD time. If airspace is required beyond scheduled LPOD, contact FACSFAC VACAPES as soon as possible.

f. All units conducting untethered/free floating balloon launches in FACSFAC VACAPES OPAREAs shall contact FACSFAC VACAPES via HF 4373.4 KHZ (4372), SIPR Chat, or telephone (757) 433-1230/31 a minimum of 24 hours prior to launch. Expected trajectory data shall be provided via e-mail at: FFVC_OCEN_FWS@navy.mil or fax at (757) 433-1266. Individual units are responsible for coordinating with the FAA for NOTAM requirements.

g. All MRU/ARUs shall provide FACSFAC VACAPES with a 30 minute notification prior to the scheduled event time in order to complete airspace briefing and correlation check.

h. Continuous radar service is available. The following primary and secondary FACSFAC VACAPES frequencies are monitored in the indicated Warning Area:

1. W-72, W-50

Check in/out

361.3 (Primary)

125.375 (Primary)

W-72 Common Area Frequencies:

1A/B 357.4

2A/B 355.1 (Primary) (TCTS)

2A/B 291.2 (Secondary)

3A/B 253.2 (Primary) (TCTS)

3A/B 343.225 (Secondary)

1C/D/E/F 289.9

2C/D/E/F 271.5

3C/D/E 271.5

2. W-386, W-387

Check in/out

238.1 (Primary) 249.8 (Secondary)

118.125 (Primary)

W-386 Common Area Frequencies:

AIR-A THROUGH F 312.2

AIR-G THROUGH J 350.05

AIR-K 346.6

W-387 346.6

3. W-110

Check in/out

251.3 (Primary)

135.875 (Primary)

W-110 Common Area Frequency: 310.1

4. W-122

Check in/out

251.6 (Primary)

135.875 (Primary)

W-122, HATTERAS B EAST AND HATTERAS B WEST

Common Area Frequencies:

AIR 1-7 310.1

AIR 8-14 364.35
AIR 15-23 337.225
HATT B 251.6 (Primary) 310.1 (Secondary)

5. **W-105, W-106**

Check in/out
338.1 (Primary)
135.225 (Primary)
W-105/106 Common Area Frequency: 305.25

6. **W-107**

Check in/out
255.0 (Primary)
135.725 (Primary)

W-107 Common Area Frequency: 339.725

NOTE: Common area frequency 337.225 MHz is available for aircraft-to-aircraft deconfliction while operating in FACSFAC VACAPES OPAREA W105/W106/W107/W122 only. This frequency is not monitored or recorded by Air Traffic Control.

NOTE: Common area frequencies in FACSFAC VACAPES OPAREAS/Warning Areas are not continuously monitored due to controller workload, possible frequency congestion and confusion.

103.6. Aircraft Penetration of and Operating Within the Atlantic Air Defense Identification Zone (ADIZ). Aircraft operating in FACSFAC VACAPES OPAREAs shall:

- a. Check in/out with FACSFAC VACAPES on frequencies listed in paragraph 103.5h.
- b. Comply with ADIZ procedures as outlined in latest edition of FLIP enroute Instrument Flight Rules (IFR) Supplement.

104. AIR TRAFFIC CONTROL (ATC) PROCEDURES. FACSFAC VACAPES is an ATC Facility. Standard ATC procedures and coordination apply. Aircraft proceeding into FACSFAC VACAPES airspace will normally be under positive control and communications will be transferred to FACSFAC VACAPES, callsign "GIANTKILLER", from adjacent air traffic control facilities. Letters of Agreement (LOA) have been implemented with adjacent ATC facilities and MRUs to provide for positive air traffic control and coordination. Compliance with ATC instructions issued by FACSFAC VACAPES is mandatory unless the pilot invokes his emergency authority.

a. All aircraft enroute to the OPAREAs shall inform FACSFAC VACAPES of event number, working area, and working unit. Aircraft working with Military Radar Units (MRU) and/or Airborne Radar Units (ARU) shall inform FACSFAC VACAPES on check-in. Aircraft working self-contained operations will be switched to their discrete frequency once established in the areas. All aircraft are required to continuously monitor the appropriate common area frequency and/or UHF/VHF Guard.

b. Pilots shall contact FACSFAC VACAPES Air Traffic Controllers ideally five minutes prior to departure of Special Use Airspace (SUA) for flight plan activation, FAA and Navy Air Traffic Control coordination, and aircraft integration into the National Airspace System. Failure to provide the five minute notice may result in a delay departing assigned SUA.

104.1. Flight Procedures.

a. Routing. Flights to/from FACSFAC VACAPES airspace shall proceed via approved routes, pre-briefed special military operations, International Civil Aviation Organization (ICAO) flight plans, or appropriate flight plans in accordance with the Department of Defense (DOD) FLIP Planning Document.

b. Identification Friend or Foe (IFF) Equipment. Aircraft in FACSFAC VACAPES airspace shall SQUAWK MODE III/C at all times and MODES II and IV, as applicable. MODE III Codes shall be as assigned by the controlling agency and shall not be changed unless directed by Air Traffic Control. Aircraft operating in the Warning Areas which have not been assigned a discrete MODE III Code and are not under the control of a military or FAA Facility shall squawk Code 4000. Aircraft that expect to operate in FACSFAC VACAPES airspace without a functioning transponder shall coordinate each flight prior to take off to obtain permission to conduct no IFF operations in FACSFAC VACAPES airspace. Aircraft that experience a transponder failure in flight may be denied entrance or required to depart the warning area dependent upon traffic volume, weather conditions and mission requirements.

c. Communications and Control. Aircraft operating to/from FACSFAC VACAPES airspace on an IFR Flight Plan shall be handled as described in paragraph 104.

1. Aircraft operating under Visual Flight Rules (VFR) to/from FACSFAC VACAPES airspace are required to check in/out with FACSFAC VACAPES. Aircraft shall monitor the common air frequency for the warning area in which they are operating for advisories and containment alerts.

2. Aircraft shall not operate in FACSFAC VACAPES airspace without an operable two-way air-to-ground radio. Aircraft experiencing two-way radio failure shall squawk MODE III 7600 and depart GIANTKILLER airspace.

3. Long range aircraft (P-3/P-8/C-130) entering the FACSFAC VACAPES OPAREA for extended operations are required to issue an operations normal report (OPS NORMAL) every hour while under FACSFAC VACAPES jurisdiction. Lost communications and SAR procedures may be initiated if communication requirements are not adhered to. Exceptions to these requirements may be granted for special missions such as USW, SAR, and aircraft working under positive control of a surface unit. Pilots requesting exception must provide the controller with a time when communications shall be reestablished. Use of HF is encouraged.

Note: Aircraft operating below 5,000 feet MSL may experience difficulty establishing or maintaining two-way radio communications with GIANTKILLER.

4. GIANTKILLER is the centralized point of contact for all “Safe-on-Deck” calls for aircraft departing U.S. Naval ships in the Virginia Capes Operating Area (VCOA) and landing in FACSFAC area of responsibility. All aircraft departing USS Ship shall maintain the same callsign throughout the flight including arrival at final destination. Each aircraft should have a flight plan filed 30 minutes prior to departure from USS Ship. GIANTKILLER and SEALORD (FACSFACJAX) will be working together to keep an active record of aircraft departing from ships to destination airfield. Pilots (including wingmen) should request the destination tower to pass a “Safe-on-Deck” call to GIANTKILLER. Destination stations shall contact GIANTKILLER via telephone at DSN: 433-1230/1231 or COMM: 757-433-1230/1231. If emergency aircraft must land at a civilian airfield, the pilot in command shall contact their respective squadron to give a “Safe-on-Deck” call and any other services requested. The squadron shall then contact the appropriate FACSFAC with the “Safe on Deck” time.

d. Navigation. The pilot in command of each aircraft or flight is ultimately responsible for keeping the aircraft within assigned airspace and for compliance with clearances and controller instructions. It is imperative that boundary integrity be maintained at all times. Aircraft and flights failing to comply with this requirement shall be instructed to depart FACSFAC VACAPES airspace.

e. Separation. Aircraft separation by FACSFAC VACAPES within assigned airspace shall normally fall into one or more of the following categories:

1. Arriving and Departing Aircraft. Successive arrivals and departures are provided positive separation from one another.

2. Concurrent Use. Airspace assigned simultaneously to different units within a defined portion of a Warning Area for operations. Pilots assume responsibility for separation and must maintain Visual Meteorological Conditions (VMC). Traffic calls, when requested, will be provided on a workload permitting basis.

3. Exclusive Use. Airspace within a defined portion of a Warning Area or other Special Use Airspace assigned to participating units for a specific event. Separation is provided by exclusion of all nonparticipating units or activities. Exclusive use clearances shall always be designated as such in the FACSFAC VACAPES OPSKED and confirmed prior to operating exclusively.

4. Instrument Meteorological Conditions (IMC) Operations. Pilots who cannot operate their aircraft VMC while in the Warning/Restricted Area must immediately advise the controlling agency. An altitude assignment and an Instrument Flight Rules (IFR) clearance to their destination will be provided. The exception to this rule is when the area has been scheduled for exclusive use and the Officer in Charge (OIC) specifically acknowledges full responsibility for safety of flight and aircraft separation.

f. Lost Communications Procedures. Title 14, Code of Federal Regulations (CFR) Part 91 applies in FACSFAC VACAPES airspace in addition to the following procedures:

1. Inbound. Aircraft proceeding inbound to the Warning Areas who are unable to contact FACSFAC VACAPES shall execute appropriate lost communications procedures and return to base.

2. Outbound. Aircraft departing the Warning Area who lose communications shall execute appropriate lost communications procedures and proceed either VFR or via filed route.

g. Off-shore Altimeter Settings. Aircraft operating primarily below FL180 shall utilize local altimeter setting. Aircraft operating at or above FL180 shall utilize 29.92Hg. Exemptions to the above include aircraft conducting high speed tactical maneuvers that include rapid transits of FL180 may use the local altimeter setting in accordance with appropriate service directives.

1. The local altimeter setting shall be issued by GIANTKILLER upon check in and check out as follows: “(appropriate station) altimeter (reported altimeter setting).”

2. Local warning area altimeter settings are derived from the following reporting stations: W-122 and W-110, MCAS Cherry Point (NKT); W-72 and W-50, NAS Oceana (NTU); W-387 and W-386, Langley USAF Base (LFI); W-107, Atlantic City International Airport (ACY); W-106 and W-105, Block Island State Airport (BID).

h. Due to the high density of air operations, air crews are cautioned to maintain a vigilant lookout at all times. All aircraft are required to operate IFF equipment in accordance with North American Aerospace Defense Command (NORAD) Classified Regulation 55-68.

NOTE: Extensive Air Intercept Controller (AIC) training is conducted in W-72 south of the 115° radial from the Naval Air Station Oceana (NTU) TACAN.

NOTE: During daylight hours Monday through Friday, units conducting air operations may encounter aircraft dropping sonobuoys.

104.2. Interceptor Operations.

a. Active Air Defense interceptor operations shall be conducted in accordance with FAA JO Handbook Special Operations 7610.4 (series) and applicable regulations. These operations shall be conducted under direct authority of Commander, U.S. Fleet Forces (COMUSFLTFORCOM) and Regional Sector Air Operations Center (SAOC), i.e., Eastern Air Defense Sector (EADS) or Western Air Defense Sector (WADS).

b. Intercept Training Activities shall be conducted in accordance with FAA JO Handbook Special Operations 7610.4 (series) and applicable regulations. Under no circumstances will any unit conduct interceptor training operations on unknown aircraft or on aircraft not part of their event without proper authorization from NORAD and under direct control provided by a Special Air Operations Center (SAOC). Unknown targets within assigned airspace are not to be intercepted without proper authority. Intercept procedures for major exercises, e.g. JTFEX, shall be briefed at the pre-exercise Air Coordination Conference.

104.3. Military Airspace Boundary Integrity. FACSFAC VACAPES policy on maintaining area boundary integrity for aircraft in a Warning Area is:

a. Aircraft operating independently and commands exercising command and control of aircraft in SUA or ATCAAs are responsible for ensuring that flight operations are conducted within the vertical and horizontal limits of that assigned airspace. This requires a continuing re-assessment of the accuracy of the position of the controlling ship or aircraft, awareness of appropriate aeronautical charts and assignment of buffer airspace as appropriate. It is imperative that military air operations be constrained to assigned airspace except in case of emergency or military necessity.

b. Prompt communication with GIANTKILLER shall be made when approved standards of separation cannot be maintained. Direct communications with the FAA is authorized if specifically outlined by letter of agreement with FACSFAC VACAPES.

c. Whiskey Alert. The phrase “Whiskey Alert” describes the unauthorized exit or airspace boundary infringement from Special Use Airspace (SUA) or ATCAA by aircraft into adjacent controlled airspace. SUA includes Restricted Areas, Warning Areas, and Military Operating Areas (MOAs). Commands who have command and control over aircraft which generate a Whiskey Alert shall immediately notify FACSFAC VACAPES via land line or radio.

d. When airspace outside of established OPAREAs/Warning Areas is required on a real time basis, FACSFAC VACAPES shall coordinate the request with the Air Traffic Control System Command Center (ATCSCC) or the appropriate Air Route Traffic Control Center (ARTCC).

NOTE: When radar command and control of aircraft is being provided by a ship, aircraft, or shore unit in Warning Areas, Restricted Areas, MOAs or ATCAAs, continuous two-way radio or land line communication between the controlling unit and FACSFAC VACAPES shall be established and maintained.

104.4. SAR On-Scene Commander Procedures. The first unit on scene following a mishap normally becomes the SAR On-Scene Commander (OSC) until relieved by a more capable unit. The OSC shall notify FACSFAC VACAPES that it is assuming SAR OSC responsibilities and inform FACSFAC VACAPES of the current On-Scene SAR frequency: typically 282.8 MHz (primary SAR on-scene) 345.0 MHz (USCG TAC), or other frequency designated by the OSC. FACSFAC VACAPES shall vector aircraft away from the airspace for an appropriate distance surrounding the SAR area and keep non-participants clear. FACSFAC VACAPES shall vector other SAR aircraft to the SAR scene and switch them to the On-Scene SAR frequency as designated by the OSC as early as possible. All non-participants must remain well clear of the SAR area. SAR OSC responsibilities shall normally be assumed by the U.S. Coast Guard when an appropriate unit arrives in the SAR area. Additional guidance on USN and USCG SAR procedures, frequencies, and checklists can be found in NWP 3-22.5 (Navy SAR TACAID), NTTP 3-50.1 (Navy SAR Manual), and USCG LANTAREAINST 16130.5 (series) (USCG Atlantic Area SAR Plan).

104.5. Carrier Air Wing Fly-Offs. Air Wing Fly-Offs shall be conducted in accordance with ref (d) and Chapter VII of this manual.

104.6. Special Exercises. Any exercise involving an increase in the airway traffic to/from FACSFAC VACAPES OPAREAs must include coordination with an appropriate FAA representative at planning conferences/briefings. FACSFAC VACAPES can assist in the coordination of appropriate representation from affected FAA and/or military facilities.

104.7. Flight Plan Filing.

a. Transition Flights. Aircraft desiring to transit FACSFAC VACAPES offshore airspace originating from a ship should send all Flight Plan messages to FACSFAC VACAPES for action with an information copy to their destination stations. The Flight Plan message should reach FACSFAC VACAPES with as much lead time as possible, but not less than three hours prior to the proposed departure time. A follow-up land-line contact, (757) 433-1230 (DSN 433), with FACSFAC VACAPES is recommended.

b. Air Filing. Aircraft desiring to air file Flight Plans for departure from OPAREAs under the control jurisdiction of FACSFAC VACAPES shall contact FACSFAC VACAPES or the appropriate Flight Service Station at least 30 minutes prior to estimated time of departure from the OPAREA. Because of the possible time delay involved or the possibility of denial, air crews are discouraged from air filing Flight Plans. Prior to departure from home field, pilots should pre-file a round-robin flight plan. Round-robin flights should include the estimated delay time in the OPAREA.

c. Military Training Route (MTR). Aircraft desiring to fly MTRs scheduled by FACSFAC VACAPES shall file in accordance with the DOD FLIP AP1/B and paragraph 104.9 of this manual.

104.8. Airspace Users Brief. Air crew operating in Special Use Airspace (SUA) or Air Traffic Control Assigned Airspace (ATCAA) within the FACSFAC VACAPES Area of Responsibility (AOR) are responsible for ensuring that flight operations are conducted within the vertical and horizontal limits of the airspace assigned. This requires a continuing re-assessment of the accuracy of the position of the aircraft and a detailed familiarization of the airspace assigned. All users of FACSFAC VACAPES airspace are expected to be familiar with the geographic airspace boundaries outlined in this manual. Unit Commanders are required to ensure that aircrews receive a current (within 12 months) airspace brief prior to operating within the FACSFAC VACAPES OPAREAs. Units desiring an Airspace brief are encouraged to contact FACSFAC VACAPES Airspace office via telephone at 757-433-1248 or email at FFVC_OCEN_AIRSPACE@navy.mil to schedule unit briefs.

104.9. Military Training Route (MTR). The general operating procedures for conducting flight operations on MTRs are contained in chapters 1 and 2 of the DOD FLIP AP1/B. All MTRs scheduled by FACSFAC VACAPES are originated and governed by CSFWL or CHSCWL. FACSFAC VACAPES is responsible for scheduling all MTRs assigned, ensuring all air crew scheduled on assigned MTRs are briefed in accordance with FLIP AP1/B, FAA JO 7610.4 Special Operations, and the operational procedures contained in effective LOAs. FACSFAC VACAPES is also the CSFWL agent for receiving MTR noise complaints.

a. Scheduling Procedures. Requests for IFR and VFR MTRs shall be made to FACSFAC VACAPES (757)433-1228/DSN 433-1228. Hours of operation are 0600-1900 local. MTRs are scheduled on a first-come, first-served basis and shall not be flown unless scheduled in advance. MTRs may be scheduled up to **five days** in advance (six days in advance on holiday weekends) **but not less than two hours prior to the proposed entry time**. Scheduled route time is “time over entry point.” Pilots or a squadron representative are required to receive a current route brief on special operating procedures or constraints not in the route description at least two hours prior to launching on their scheduled route. The briefing items include but are not limited to noise sensitive areas, unpublished obstructions or airports, bird activity, route suspension due to air search, forest fire, etc. **Failure to obtain this brief shall be cause for cancellation**. All aircrews are required to be familiar with the FLIP AP1/B and FAA JO Special Operations 7610.4 series.

1. IFR Military Training Route (IR). FACSFAC VACAPES is the designated scheduling agency for the following IRs: IR062, IR714, IR715, IR718, IR719, IR720, IR743, IR760, IR761 and IR762. Scheduling information required: SQUADRON NAME, CALL SIGN, NUMBER/TYPE, AIRCRAFT TRUE AIR SPEED (TAS), ORDNANCE YES/NO, ESTIMATED TIME OF DEPARTURE (ETD) (Z), ENTRY POINT/TIME (Z), EXIT POINT /TIME (Z), SQUADRON POINT OF CONTACT (POC). Entry times will be scheduled on the hour and half hour only. Thirty minute separation shall be maintained. Faster aircraft behind slower aircraft can expect additional separation.

2. VFR Military Training Route (VR). FACSFAC VACAPES is the scheduling activity for the following VRs: VR054, VR071, VR1061, VR1722, VR1743, VR1753, VR1754, VR1755, VR1756, VR1757, and VR1759. Scheduling information required: SQUADRON NAME, CALL SIGN, NUMBER/TYPE, AIRCRAFT TAS, ENTRY POINT/TIME (Z), EXIT POINT/TIME (Z), and SQUADRON POC. Entry points shall be scheduled on the hour, and 15, 30, and 45 minutes past the hour. Fifteen minutes separation shall be maintained. Faster aircraft behind slower aircraft can expect additional separation.

3. SR Military Training Route (SR). FACSFAC VACAPES is the scheduling activity for the following SRs: SR809, SR810, SR811, and SR812. Scheduling information required: SQUADRON NAME, CALL SIGN, NUMBER/TYPE, AIRCRAFT TAS, ENTRY POINT/TIME (Z), EXIT POINT/TIME (Z), and SQUADRON POC. Entry points shall be scheduled on the hour, and 15, 30, and 45 minutes past the hour. Fifteen minutes separation shall be maintained. Faster aircraft behind slower aircraft can expect additional separation.

b. Air Wing Scheduling. The five day maximum requirement for scheduling does not apply to deployed air wings or air wings about to deploy.

104.10. Traffic and Collision Avoidance Systems (TCAS). TCAS was developed to provide civilian commercial aircraft advanced notice of a possible collision with another aircraft. The equipment is an airborne collision avoidance system based upon transponder signals to provide avoidance information to pilots of equipped aircraft when a conflict is detected. All military and civilian transport/passenger aircraft are equipped with TCAS. The avoidance portion of the TCAS is called a Resolution Advisory (RA). All TCAS equipped aircraft are responsible to respond to a RA based on unknown aircraft. This response could be in the form of a climb or descent to ensure the safety of the aircraft that is responding to the RA. All commercial /transport aircraft shall be considered TCAS equipped. If an aircraft receives an RA but has been informed of the traffic causing it, or has the traffic in sight, it is the pilot's decision on whether to comply with the RA or not.

105. LARGE AREA TRACKING RANGE (LATR). LATR is a Global Positioning System (GPS) based tracking system allowing simultaneous tracking of up to 124 instrumented participants to a nominal radius range of 150 NM from a Ground Interrogation Station (GIS). The LATR tracking system is normally utilized to instrument the ships and aircraft participating in large force exercises. The system provides the Officer Conducting the Exercise (OCE) an exercise control tool. It also provides the OCE and other participants a rapid, near real-time debrief tool and post exercise reconstruction and evaluation products. LATR can be used for all phases of training from unit level to intermediate level Carrier and Expeditionary Strike Group exercises, and for sustainment exercises such as Joint Task Force Exercise.

1. Scheduling must be done with Naval Surface Warfare Center (NSWC). LATR services may be scheduled for unit level training at (757) 433-5287 or (757) 433-3030.

2. Units are responsible for scheduling airspace in accordance with this instruction and/or FACSFAC JAX instruction.

CHAPTER II

AIR, SURFACE, AND SUBSURFACE OPERATING AREAS

201. GENERAL. FACSFAC VACAPES controls Special Use Airspace (SUA) which consists of Warning Areas and Restricted Areas, Military Operating Areas (MOA), Air Traffic Control Assigned Airspace (ATCAA), and Surface/Subsurface Operating Areas. These areas are depicted on applicable National Geospatial Intelligence Agency (NGA) Charts and Appendix O of this manual. The following guidelines are applicable to FACSFAC VACAPES controlled areas.

a. Airspace/Surface Grid Interface. Airspace clearances may be issued by Warning Area, but the need exists to precisely define smaller parcels of airspace. Accordingly, the Special Operating Area Management concept has been instituted. Airspace will be requested and scheduled using the Special Operating Areas described below. Surface clearances will be issued using the Surface Area Grid Reference System, Appendix O.

CAUTION: Airspace and surface clearances are always issued separately, except in W-72 W-122, and W-386 where the surface and air grids are aligned. Adherence to these clearances is mandatory. In other warning areas airspace does not always encompass the same area as the assigned Surface Operating Areas. This situation exists in the following instances:

1. Atlantic Route 8 (AR-8) and Atlantic Route 9 (AR-9), which partially overlay Surface Operating Areas, are not included in the airspace clearance issued when using the Surface Area Grid Reference System.

2. Two or more Warning Areas may overlay a Surface Operating Area. The airspace clearance issued using the Surface Area Grid Reference System will include only the airspace overlying the surface grids within a specified Warning Area and not the entire surface grid.

b. Subsurface Operations. Subsurface operations may be requested and conducted in all areas with 72 hours notice, except VCOA areas 3B, K1-K4 as well as CPOA Area 18 which can be scheduled real-time. VCOA, NBOA and CPOA contain submarine transit lanes used by submarines transiting submerged (98 feet or lower). Submarines entering the surface area (surface down to but not including 98 feet) shall expect mutual area usage. Unless an exclusive surface area clearance has been obtained from FACSFAC VACAPES by the Submarine Exercise Area Coordinator (SEAC), surface units may be assigned operations in these areas. FACSFAC VACAPES grants concurrent surface and exclusive subsurface clearances to the SEAC for submarine operations. In all waters where submarine operations are scheduled, surface units are directed to utilize one or more of the following: cavitation, sonar and/or active fathometer on maximum depth. This requirement may be waived by the OCE for surface participants when the Submarine Operating Authority (SUBOPAETH) approves coordinated exercises involving submarines, which is normally the SEAC.

202. VIRGINIA CAPES OPERATING AREA (VCOA). The following are descriptions of the specific air, surface and submarine operating areas within and in the vicinity of the VCOA. Coordinates for Warning Areas located in the VCOA can be found in ref (a), AP/1A Flight Information Publication (FLIP) and appropriate DMA Charts.

202.1. Virginia Capes Air Operating Areas. Special Use Airspace (SUA) is defined in FLIP AP/1A, below, and Appendix O. Military Operations Areas (MOA) are depicted on enroute charts and the Hatteras ATCAA is depicted in Appendix O.

a. Warning Area 50 (W-50). W-50 overlies that portion beyond three miles from the coast of Dam Neck, Virginia (Surface Danger Area D-334.390). Note that W-50 and Surface Danger Area 334.390 do not share a common northern boundary. W-50 is divided into subareas ALPHA, BRAVO and CHARLIE. All areas are depicted in Appendix O.

b. Restricted Area 6606 (R-6606). R-6606 lies between the coast of Dam Neck and the three-mile limit and borders the western limit of W-50 from the surface to FL510 as depicted in Appendix O.

c. Warning Area 72 (W-72). Effective altitudes of W-72 are: East of 075°30'00"W surface to unlimited except for AIR 2A/2B/3A/3B (TCTS Range when activated) 5,000FT MSL to unlimited. Air operations in airspace overlying surface OPAREAs 13 and 20 are normally controlled by NAS Oceana Approach Control from surface to FL230 and by Washington Center from FL240 to FL600. Air operation areas in W-72 may be described by using the aligned surface/air grid structure, Appendix O. Areas 4A-4D, and all areas underlying W-110 (AR-8) are not part of W-72. Airspace FL240 and above in W-72 is released to Washington Center when not active. Scheduling of operations FL240 and above following this turnover requires coordination at least 15 minutes prior with FACSFAC VACAPES to recall airspace from Washington Center on a real-time basis. Real-time scheduling of concurrent air operations can be done anytime if the area has not been previously scheduled. All military aircraft must be briefed and familiar with operations within W-72 prior to entry. If questions arise contact FACSFAC VACAPES at DSN 433-1230/1231 or Commercial (757) 433-1230/1231. When requesting/utilizing Warning Area Divisions (WAD) in W-72, refer to the following WAD air coordinates listed below.

W-72 WAD Air Grid: See coordinates in Appendix O.

NOTE: Corridors are established to provide routing/clearance limits for arriving /departing aircraft for W-72 divisions. Pilots should ingress/egress via the corridors to the maximum extent possible at ATC assigned altitude to avoid exclusive operations.

NOTE: It is the pilot's responsibility to maintain area containment IAW para 104.1.e when operating within the WADs. Pilots shall contact FACSFAC VACAPES air traffic controllers five minutes prior to completion of mission/event for flight plan activation and air traffic control coordination.

NOTE: The ultimate purpose for smaller warning area divisions is to allow multiple sorties within the confines of the designated warning area. Units should make every effort to schedule only the amount of airspace required and only the actual time required for completing the mission.

NOTE: Contact FACSFAC VACAPES on 4373.3 KHz (4372 KHz USB) HF or UHF 361.3 MHz (PRI), 271.5 (SEC), 118.125 MHz (PRI) VHF prior to entry/operations within area 3B, 4,000 feet and below. Gunnery exercises may be in progress (maximum ordinate not to exceed 3,500 feet).

c. Warning Area 387 (W-387)

NOTE: W-387A and W-387B share the same geographical coordinates but are separated by altitude.

d. Warning Area 386 (W-386). W-386 overlies surface areas A-L, and coordinates can be found in Appendix O. Effective altitudes for W-386 east of 075°30'00"W are surface to unlimited. Air operations in airspace overlying surface area L from 2,000 feet to FL180 must be VFR unless under the control of Norfolk Approach Control (2,000 feet to FL230) or Washington ARTCC (FL240 to FL600). Air operations in surface area L below 700 feet MSL must be conducted in VMC conditions. If either IMC operations or a flight altitude of 700 feet or above is required, contact Norfolk Approach Control for clearance.

1. Airspace in W-386 west of coastal ADIZ 10,000 feet and above and east of coastal ADIZ FL240 and above is released to Washington and New York Center when not active. Scheduling of operations west of coastal ADIZ 10,000 feet and above and east of coastal ADIZ FL240 and above following this turnover requires coordination at least 15 minutes prior with FACSFAC VACAPES to recall airspace from Washington and New York Center on a real time basis. Real-time scheduling of concurrent air operations can be done anytime if the area has not been previously scheduled.

2. All military aircraft must be briefed and familiar with operations within W-386 prior to entry. If questions arise contact FACSFAC VACAPES at DSN 433-1230/1231 or Commercial (757)433-1230/1231. When requesting/utilizing Special Operating Areas in W-386, refer to the following SOA air coordinates listed below:

NOTE: Airspace south of 37°30'00"N (SFC-14K) within Test Track Charlie and north of 38°24'00"N (14K-15K) within Test Track Alpha is available for transit to/from special use airspace with a five minute notification.

W-386 INGRESS/EGRESS POINTS:

ATLIC 36°55'04"N/075°12'47"W
OUTES 36°55'42"N/074°26'04"W
DARTT 37°17'36"N/075°30'00"W
HEELS 37°16'36"N/075°30'00"W

NOTE: Corridors are established to provide routing/clearance limits for arriving /departing aircraft for W-386 WADs. Pilots should ingress/egress via the corridors to the maximum extent possible at ATC assigned altitude to avoid exclusive operations.

NOTE: It is the pilot's responsibility to maintain area containment when operating within the WADs. Pilots shall contact FACSFAC VACAPES air traffic controllers five minutes prior to completion of mission/event for flight plan activation and air traffic control coordination.

e. VCOA Employment. VCOAs are scheduled for optimum use by dividing areas for specific users and types of exercises. These areas and some of the users/exercises involved are as follows:

1. W-50/R-6606/Danger Area 334.390 (D-334.390)

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
W-50/R-6606/D-334.390	USN Ships	Gunnery training
W-50/R-6606	NAVAIR Det	Drone launch/control
W-50/A/B/C	SPECWAR US Coast Guard	Classified

2. W-72

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
1C-1F, 2C-2F, 3C-3F	USN Aircraft	Air-to-air missile exercises
1A,1B,3B	USN Ships	Surface-to-air missile exercises and CIWS gunnery exercises
2A, 2B, 3A, 3B	USN Aircraft	Tactical Combat Training System
W-72 Aircraft	Carriers, VAW Squadrons Dam Neck (FCTCL)	Carrier air ops, AIC training aircraft Tracking USN Ships
3B	USN Aircraft USN ships USCG	Precision Accuracy Calibration (PAC) firing (5,000 feet and below)

3. **W-386**

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
G1-G3, H1-H4	NASA Wallops/ NAWCAD Patuxent River	Rocket firing/Flight Test programs
K1-K4	USN Aircraft/Ships	Gunnery exercises
I4-I5	USN Aircraft/Ships	Torpedo and ASW Exercises
<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
L	CHSCWL	Air Mine Counter Measure (AMCM) Operations
W-386	USAF Aircraft	Exclusive Air Operations
Test Tracks A-D	NAVAIRWARCENAD Patuxent River Various NORAD/USAF Aircraft	RDT&E Projects Air Intercept/ Maneuvering Training

4. **W-387**

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
W-387A/B	Aircraft Carriers USAF	Carrier air ops, Air Ops/AIC

5. **W-110**

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
W-110	USN/USAF Aircraft	ACM

NOTE: This employment is not intended to prohibit users from requesting these or other areas, nor does it entitle the primary user to unlimited use. Consideration of requests for airspace utilization is conducted and provided for in the weekly FACSFAC VACAPES OPSKED.

202.2. Virginia Capes Surface Operating Areas. The VCOA surface operating areas lie off the East Coast of Maryland, Virginia and North Carolina. These areas are separated into subareas, Appendix O.

a. D-334.390, off the coast of Virginia at Dam Neck, is a part of the Dam Neck range complex and is inside W-50.

b. VCOA Normal Surface Area Employment

1. Surface Areas within W-386 and W-72 are normally naval surface operating areas.

2. W-386 (Area L) is used primarily by Commander, Helicopter Sea Combat Wing Atlantic (CHSCWL) for surface and airborne mine countermeasure operations.

3. W-386 (Areas K1-K4) and W-72 (3B) are fleet gunnery areas where all gunnery operations should be conducted.

4. W-72 (Areas Air 1A and Air 1B) are normally used for CIWS gunnery exercises and surface-to-surface and surface-to-air missile exercises.

5. W-50 and R-6606 are normally used for small boat gunnery exercises, surface-to-surface and underwater detonations.

202.3. Virginia Capes Submarine Operating Areas (SUBOAs).

a. Submarine operations are normally conducted in North VCOAs Areas E1-E4, F1-F3, H1-H4, I1-I6, and J1-J6 as well as South VCOAs Areas 1B3 thru 1C4, 1D thru 1F, 2B thru 2F, 3C thru 3E, and 4B-4D. Submarine operations also occur in Submarine Transit Lanes ECHO and WHISKEY.

b. Submarine transit lanes and operating areas in the VCOAs are defined in AHP-6 VOL 1.

c. The Submarine Exercise Area Coordinator (SEAC) for the VCOA is COMSUBLANT: DSN: 836-1009 COMM: (757)836-1009.

203. ATLANTIC CITY OPERATING AREA (ACOA). Warning Area 107 (W-107) overlies surface OPAREAs 1 through 14, Appendix O. The southern portions of Surface Areas 9, 12, and 14 underlying B24/L455-457 are not part of W-107 and not included in airspace clearances. Coordinates for Warning Areas located in the ACOA can be found in ref (a), Flight Information Publication (FLIP) AP/1A, and appropriate NGA Charts.

203.1. Atlantic City Air Operating Areas. W-107 overlies surface OPAREAs as depicted in Appendix O. Effective altitudes within W-107 are as follows: W-107 AIR A through E, surface to unlimited; W-107B, surface to but not including 2,000 feet; W-107C, surface to but not including FL180; W-107 Corridor is activated real time with New York Center 7,000 feet MSL to (but not including) FL180.

a. Airspace 8,000 feet and above in W-107 is released to Washington and New York Center when not active. Scheduling of operations 8,000 feet and above following this turnover requires coordination at least 15 minutes prior with FACSFAC VACAPES to recall airspace from Washington and New York Center on a real-time basis. Real-time scheduling of concurrent air operations can be done anytime if the area has not been previously scheduled. All military aircraft must be briefed and familiar with operations within W-107 prior to entry. If questions arise contact FACSFAC VACAPES at DSN 433-1230/1231 or Comm (757) 433-1230/1231. When requesting/utilizing Special Operating Areas in W-107, refer to the following WAD air coordinates listed in Appendix O.

203.2. Atlantic City Surface Operating Areas. The Atlantic City Operating Area (ACOA) SOAs lie off the east coast of New Jersey and New York. These areas are numerically designated, Appendix O.

203.3. Atlantic City Submarine Operating Areas (SUBOAs).

a. Submarine operations are normally conducted in Areas 5 and 9. There are no Submarine Transit Lanes in the ACOAs.

b. Submarine operating areas in the ACOAs are defined in AHP-6 VOL 1.

c. The Submarine Exercise Area Coordinator (SEAC) for the ACOAs is COMSUBLANT: DSN: 836-1009 COMM: (757) 836-1009.

203.4. ACOA Employment. ACOAs are scheduled for optimum use by apportioning areas for specific users and types of exercises. These areas and the users/exercises involved are:

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
All Areas Eastern	Air Defense Sector (EADS)/USAF aircraft NAVAIRDEVGEN	Air Intercept Training Research & Development Projects
Areas 7 and 13	USN/USCG Ships	Gunnery Exercises

204. NARRAGANSETT BAY OPERATING AREA (NBOA). The following are descriptions of the specific air, surface, and submarine operating areas within and in the vicinity of the NBOA. The NBOA comprises the following Warning Areas: W-105: AIR A-I, W- 105B and W-106 A-D. Coordinates for Warning Areas located in the NBOA can be found in ref (a), Flight Information Publication (FLIP) AP/1A, Appendix O, and appropriate NGA Charts.

204.1. Narragansett Bay Air Operating Areas. W-105 and W-106 are depicted in Appendix O. Effective altitudes within W-106 are: W-106A, surface to 3,000 feet MSL; W-106B, surface to 8,000 feet MSL; W-106C, surface to 10,000 feet MSL; W-106D, surface to 5,999 feet MSL. Effective altitudes in W-105 AIR A-I is surface to FL500; W-105B, surface to FL180.

a. Airspace 11,000 feet and above in W-105 and all airspace in W-106 is released to Boston and New York Center when not active. Scheduling of operations 11,000 feet and above in W-105 and all airspace in W-106 following this turnover requires coordination at least 15 minutes prior with FACSFAC VACAPES to recall airspace from Boston and New York Center on a real-time basis. Real-time scheduling of concurrent air operations can be done anytime if the area has not been previously scheduled. All military aircraft must be briefed and familiar with operations within W-105/W-106 prior to entry. If questions arise contact FACSFAC VACAPES at DSN 433-1230/1231 or Commercial (757) 433- 1230/1231. When requesting/utilizing Special Operating Areas in W-105/ W-106, refer to the following WAD air coordinates listed in Appendix O.

NOTE: When airspace is not required by a Department of Defense (DoD) Agency, airspace is returned to the controlling agency (Boston/New York/Washington Centers). Airspace north of 41 degrees latitude is restricted to 10,000 feet MSL and above.

204.2. Narragansett Bay Surface Operating Areas. The NBOA surface operating areas are located off the coast of Long Island and Narragansett Bay, Rhode Island. These areas are numerically separated into lettered subareas as depicted in ref (a), Appendix O, and appropriate NGA Charts.

204.3. Narragansett Bay Submarine Operating Areas (SUBOAs).

a. Submarine operations are normally conducted in Areas 2 thru 28. Submarine operations also occur in Submarine Transit Lanes ALPHA, BRAVO, CHARLIE, DELTA, NOVEMBER, SIERRA, and EXTENSION XRAY.

b. Submarine transit lanes and operating areas in the NBOAs are defined in AHP-6 VOL 1.

c. The Submarine Exercise Area Coordinator (SEAC) for the NBOAs is COMSUBLANT: DSN: 836-1009 COMM: (757)836-1009.

204.4. NBOA EMPLOYMENT. W-105/W-106/NBOA areas are scheduled for optimum use by apportioning areas for specific users and types of exercises. These areas and the users/exercises are:

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
4,5A,26 (within W-105A and C)	Surface/subsurface units	Firing events
W-105, W-106	EADS Air National Guard	Air Intercept Training Air Intercept Training/ACM

205. CHERRY POINT OPERATING AREA (CPOA). The following are descriptions of the specific air, surface and submarine operating areas within and in the vicinity of the CPOA. Coordinates for Warning Areas located in the CPOA can be found in ref (a), Appendix O, Flight Information Publication (FLIP) AP/1A, and appropriate DMA Charts.

205.1. Cherry Point Air Operating Areas. W-122 is depicted in Appendix O. Effective altitudes of W-122 (1-23) are surface to unlimited with the exception of the NW portion of W-122 (15) and (16) which is Surf-FL230. W-122 (8) is released to Cherry Point Approach Control, surface to but not including FL180 and is recalled when needed. W-122 (1,8 and 15) are concurrent use only. Portions of Surface Areas 4A-4D, and all areas underlying W-110 (AR-8) are not part of W-122.

a. Airspace FL240 and above in W-122 is released to Washington, New York, and Jacksonville Centers when not active. Scheduling of operations FL240 and above following this turnover requires coordination at least 30 minutes prior with FACSFAC VACAPES to recall airspace on a real-time basis. Real-time scheduling of concurrent air operations can be done anytime if the area has not been previously scheduled. All military aircraft must be briefed and familiar with operations within W-122 prior to entry. If questions arise contact FACSFAC VACAPES at DSN 433-1230/1231 or Comm (757) 433-1230/1231. When requesting/utilizing W-122, refer to the following air coordinates listed in Appendix O.

NOTE: Corridors are established to provide routing/clearance limits for arriving /departing aircraft for W-122 divisions. Pilots should ingress/egress via the corridors to the maximum extent possible at ATC assigned altitude to avoid exclusive operations.

NOTE: It is the pilot's responsibility to maintain area containment when operating within the WADs. Pilots shall contact FACSFAC VACAPES air traffic controllers 5 minutes prior to completion of mission/event for flight plan activation and air traffic control coordination.

205.2. Cherry Point Surface Operating Areas. The CPOA Surface Operating Areas (OPAREAS) lie off the east coast of North and South Carolina. These areas are numerically designated as depicted in Appendix O.

NOTE: Surface Areas 15A and 15B are activated during use of the G10 Gunnery Range for at sea units.

205.3. Cherry Point Submarine Operating Areas (SUBOAs).

a. Submarine operations are normally conducted in Areas 2 thru 7, 9 thru 14 and 19 thru 23. Submarine operations also occur in Submarine Transit Lanes CHARLIE and DELTA.

b. Submarine transit lanes and operating areas in the CPOAs are defined in AHP-6 VOL 1.

c. The Submarine Exercise Area Coordinator (SEAC) for the CPOAs is COMSUBLANT: DSN: 836-1009 COMM: (757)836-1009.

205.4. CPOA Employment. CPOAs are scheduled for optimum use by apportioning areas for specific users and types of exercises. These areas and the users/exercises involved are as follows:

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
All Areas Various	USN/USMC/USAF Aircraft	Air intercept training and ACM
2-7, 11-14	USN Ships	Surface Gunnery

206. BOSTON OPERATING AREA. Warning Areas 102, 103, and 104 overlie surface OPAREAs 1 through 14, Appendix O. Coordinates for Warning Areas located in the Boston OPAREA can be found in ref (a), Flight Information Publication (FLIP) AP/1A, and appropriate NGA Charts.

206.1 Boston Air Operating Areas. The air operating areas in the Boston OPAREA are scheduled by Eastern Air Defense Sector, Rome, NY (EADS). For any operations other than surface or subsurface transit, contact FACSFAC VACAPES for scheduling coordination.

206.2. Boston Surface Operating Areas. The Boston OPAREAs lie off the east coast of New England. These areas are numerically designated as depicted in Appendix O.

206.3. Boston Submarine Operating Areas (SUBOAs).

a. Submarine operations are normally conducted in Areas 1-14. Submarine operations also occur in Submarine Transit Lane ALPHA.

b. Submarine transit lanes and operating areas in the Boston OPAREAs are defined in AHP-6 VOL 1.

c. The Submarine Exercise Area Coordinator (SEAC) for the Boston OPAREAs is COMSUBLANT: DSN: 836-1009 COMM: (757)836-1009.

206.4. Boston Operating Area Employment. Boston OPAREAS are scheduled for optimum use by apportioning areas for specific users and types of exercises. These areas and the users/exercises involved are as follows:

<u>Area(s)</u>	<u>User</u>	<u>Typical Exercises</u>
All Areas Various	USN/USMC/USAF Aircraft	Air intercept training and ACM
All Areas	USN/USCG Ships	Surface Gunnery

207. BERMUDA OPERATING AREA. Warning Areas 3014, 3015, and 3018; Restricted Area 3017 and surface and subsurface OPAREAs Echo, Foxtrot, and Hotel comprise the Bermuda OPAREA. Coordinates for Warning Areas located in the Bermuda OPAREA can be found in ref. (a), Flight Information Publication (FLIP) AP/1A, and appropriate NGA Charts.

207.1 Bermuda Air Operating Areas. The air operating areas in the Bermuda OPAREAs are owned and scheduled by New York Center. For any operations other than surface or subsurface transit, contact FACSFAC VACAPES for scheduling coordination.

207.2. Bermuda Surface Operating Areas. The Bermuda OPAREAs lie off the coast of Bermuda. These areas are numerically designated as depicted in Appendix O.

207.3. Bermuda Submarine Operating Areas (SUBOAs).

a. Submarine operations may be conducted in Areas Echo, Foxtrot, and Hotel.

b. Submarine transit lanes and operating areas in the Bermuda OPAREAs are defined in AHP-6 VOL 1.

c. The Submarine Exercise Area Coordinator (SEAC) for the Bermuda OPAREAs is COMSUBLANT: DSN: 836-1009 COMM: (757)836-1009.

208. SEVERE WEATHER AVOIDANCE PLAN (SWAP). SWAP is a Letter of Agreement (LOA) between FAA Air Traffic Control System Command Center (ATCSCC) and FACSFAC VACAPES (dtd 01 Nov 2009) to establish mutually agreed interagency coordination and action for the re-routing of civilian airline traffic offshore into the Warning Areas as a result of severe weather in the National Airspace System. Matters pertaining to the use of the offshore corridor and Warning Area Divisions will be accomplished by the FAA through FACSFAC VACAPES. FACSFAC VACAPES will not deny use/priority of any Warning Area airspace to a Department of Defense unit as a result of a SWAP "REQUEST" by the FAA ATCSCC. However, FACSFAC VACAPES may attempt to coordinate airspace to support the FAA's request. It should be noted that at no time is FACSFAC VACAPES seeking to negatively impact mission readiness or training.

209. MILITARY OPERATIONS AREAS (MOAs). MOAs are defined in FLIP products and in the FAA Joint Order 7400.8. These areas are depicted as designated in Appendix O.

a. Self-Escort Corridor (SELFEX). The SELFEX Corridor is designed for Strike Fighter Wing Atlantic aircraft based at NAS Oceana to transit VFR from W-72 TCTS Ranges to R-5314 with an increased level of safety and reduced communication requirements. Use of SELFEX Corridor shall be accomplished in accordance with current Letter of Agreement (LOA).

b. Pamlico A&B and Stumpy Point MOAs. The Pamlico MOA consists of airspace overlying the Pamlico Sound from 8,000 feet MSL up to, but not including, FL180. Washington ARTCC will activate the Pamlico A&B MOA only for scheduled users upon request. Appendix O depicts the Pamlico A&B MOA in relationship to R-5313 and R-5314 airspace.

1. The Pamlico A&B MOAs may be scheduled individually or collectively with Hatteras B East and Hatteras B West ATCAAs. Units operating in the Pamlico A&B MOAs shall maintain communications on 251.6 MHz (primary) or 310.1 MHz (secondary). The effective altitudes of Pamlico A&B MOAs are 8,000 feet MSL up to, but not including, FL180.

2. Airspace below Pamlico A&B MOAs is controlled by Marine Corps Air Station Cherry Point Approach Control.

3. Scheduling priorities for Pamlico A and B MOAs under FACSFAC VACAPES cognizance are derived from COMUSFLTFORCOM OPORDER 2000. Appendix D of this manual provides an integrated list of scheduling priorities.

4. Stumpy Point MOA surrounds R-5313A and is monitored by Navy Dare. The effective altitude of Stumpy Point MOA is surface to, but not including, 8,000 feet. Scheduling priorities for Stumpy Point MOA under FACSFAC VACAPES cognizance are derived from FACSFACVACAPESINST 3710.1 series.

c. Dare Corridor. The Dare Corridor consists of airspace used to facilitate aircraft tactical transit from W-72, W-110, or W-122 into R-5314 with reduced real-time coordination. The effective altitude of Dare Corridor is 11,000 feet to 23,000 feet. Upon entering applicable Warning Area, Mission Commanders will advise GIANTKILLER of intentions to utilize the Dare Corridor and route of flight when departing R-5314 (return to Warning Area or NAS Oceana). Advise GIANTKILLER on 361.3 MHz when departing the Warning Area and when re-entering the Warning Area, if applicable. Maintain assigned IFF codes.

d. Hatteras B East and Hatteras B West ATCAAs. The Hatteras B East and Hatteras B West ATCAAs overlay most of R-5314, R-5313 and the Pamlico A&B MOAs, Appendix O. Airspace boundaries and airspace limits are defined in the current LOA.

1. Hatteras B East and Hatteras B West ATCAAs are released to FACSFAC VACAPES by Washington ARTCC based on existing weather and traffic conditions. FACSFAC VACAPES schedules the standard altitudes of FL180-FL290; altitudes from FL180-FL600 are available for Hatteras B East upon request. Altitude extension request are required 24 hours in advance.

2. The Hatteras B East and Hatteras B West ATCAAs may be scheduled individually or collectively with Pamlico A&B MOAs, Appendix O. Units operating in the Pamlico A&B MOAs and Hatteras B East and Hatteras B West ATCAAs shall maintain communications on 251.6 MHz (primary) or 310.1 MHz (secondary).

3. The Hatteras B East and Hatteras B West ATCAAs may be scheduled as part of the Burner ATCAA.

CAUTION: Agencies exercising control within Hatteras B East and Hatteras B West ATCAAs and Pamlico A&B MOAs in particular shall have video mapping or other adequate means of ensuring airspace boundary integrity for controlled aircraft. Units using this airspace shall be thoroughly familiar with all boundaries.

4. A minimum of four-hour lead-time is required for FACSFAC VACAPES to coordinate use of the Hatteras B East and Hatteras B West ATCAAs. See Chapter III for scheduling procedures.

5. The Burner ATCAA overlaps with Hatteras B East and Hatteras B West ATCAAs. They cannot be both activated simultaneously for separate events.

c. Phelps Military Operating Area. The Phelps A/B/C MOA is delegated to the 4th Fighter Wing at Seymour Johnson AFB by Marine Corps Air Station Cherry Point Approach Control, FACSFAC VACAPES is the coordinator for the Navy scheduling requirements for the Phelps MOA.

15 Sep 15

1. Phelps MOA is divided into three sections: A, B and C. Phelps MOA overlies portions of R-5314 (respectively) from 6,000 feet MSL, 10,000 feet MSL, 15,000 feet MSL up to but not including FL180. Airspace boundaries are defined in FAA JO 7400.8 and FLIP products.

2. Scheduling priorities for Phelps MOAs under FACSFAC VACAPES cognizance are derived from ref (f).

3. The Phelps MOAs are used in conjunction with scheduled range times requested for R-5314 (Navy Dare range).

4. A minimum of six hours lead-time is required for FACSFAC VACAPES to coordinate use of the Phelps MOAs.

CHAPTER III

REQUESTING, SCHEDULING, CANCELLING, AND COORDINATING OPAREAS, SERVICES AND TARGETS

301. GENERAL. This chapter addresses procedures required to schedule events through FACSFAC VACAPES via the Fleet Forces Atlantic Exercise Coordination Center (FFAECC). Thorough knowledge of OPAREAs, warning areas, targets, and services is required prior to preparation of a request to ensure accurate and expeditious processing by FFAECC. Chapter II contains general guidelines for utilizing air, surface, and subsurface OPAREAs under the cognizance of FACSFAC VACAPES. A detailed description of FFAECC services available can be obtained in COMUSFLTFORCOMINST 3502.2 (series), ref (b).

302. REQUEST FORMAT. All requests for OPAREAs, targets and services must be scheduled using OPNAV's approved Data Collection and Scheduling Tool (DCAST). DCAST is an on-line, web server-based information application used to schedule training and testing events and collect range utilization data at ranges and training areas.

a. DCAST can be accessed at: <https://dcast.csd.disa.mil>. A valid Common Access Card is required to access DCAST.

b. Users shall submit requests via DCAST to FACSFAC VACAPES and FFAECC for OPAREAs, assets, targets, and service requests.

c. Requests for exclusive use areas should be limited to the minimum area and time required to complete the mission.

d. The normal lead-time for scheduling is 72 hours due to unique requirements of certain OPAREAs and impact to airspace/water space management.

e. All users shall adhere to the time period assigned to their scheduled event. If a time extension is required, submit change requests via DCAST or to the Area Coordinator for real-time coordination (see Chapter 1 for contact info).

303. ALTERNATE REQUEST PROCEDURES. For users with low band width connections, OPAREA and services requests may be made by:

a. Sending an OPAREA request via GENADMIN messages that should be addressed to the following PLAs: FACSFAC VACAPES OCEANA VA and FFAECC OCEANA VA. Additionally, the message must contain the following information (an example message is in Appendix F):

1. Unit name.

2. Point of contact with phone number and email address. (POTS/INMARSAT number if deployed).

3. Dates and times (ZULU).

4. The areas or subareas desired (see Appendix O for numbering) and altitudes/depth required.

5. Type of operation or exercise to be conducted and priority in accordance with Appendix D. Use a plain language description vice FXP/MTP codes.

6. Services requested.

7. Remarks.

b. Send an unclass email request to FFAECC@navy.mil including all the information listed in 303.a.1-7.

304. OPAREA/WARNING AREA REQUEST REQUIREMENTS. The following requirements shall be adhered to in formulating all requests:

a. DCAST is the primary means of scheduling and can be accessed at: <https://dcast.csd.disa.mil>. A valid Common Access Card is required.

b. OPORDERS, MOVEREPs, Notices of Intent (NOI), Variable Depth SONAR (VDS) notes, and latitude/longitude position reports and CATAS advisories are unacceptable for OPAREA request purposes.

c. Operations which may be hazardous to, or interfere with non-participating units, require an exclusive use clearance.

d. Operating requirements for depths, altitude, area size, etc., should be reviewed by the requesting unit prior to submission to preclude over scheduling.

e. Operations requiring both air and surface areas shall identify both the air warning areas and surface OPAREAs desired.

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

g. Air clearance requests shall include specific altitudes required.

h. Clearance requests for all underwater operations (surfaced or submerged) outside of FACSFAC VACAPES OPAREAs shall be addressed to COMSUBLANT NORFOLK VA. Units who desire to conduct TACTAS, VDS, NIXIE, diving, EOD, etc., shall request specific clearance from FACSFAC VACAPES at least **72 working hours** in advance. W-386 surface grid K1-K4, W-72 surface grid 3B, and W-122 surface grid 18 are exempt from the **72-hour advance notice requirement**. These areas may be prescheduled with the FFAECC schedulers or real-time scheduled with the FACSFAC VACAPES Area Coordinator (757) 433-1320, DSN 433-1320 (recorded line).

i. All requests shall be received by FFAECC no later than 0800 local on Monday of the week proceeding the week which the event is requested. Additional planning time should be allowed based on exercise priority, magnitude, and exclusivity of the area(s) requested. **Request for small arms clearance (.50 cal and smaller) need not be submitted to FFAECC.** The unit conducting small arms fire shall be responsible for requesting approval to use an area from FACSFAC VACAPES Area Coordinator and clearing their own range. **All units are required to use the Protective Measures Assessment Protocol (PMAP) prior to ordnance events.** Ships are not required to request OPAREAS for transit or Deck Landing Qualifications (DLQ). All non-participating units must remain clear of hot/exclusive areas.

j. An Officer Conducting Exercise (OCE) shall be named for all multi-unit exercises. The OCE is responsible for coordinating requests (or preferably, submitting a composite request) and promulgating the Pre-Ex LOI.

k. All Navy and Marine Corps OPAREA users shall ensure Protective Measures Assessment Protocol (PMAP) is completed prior to conducting all training events. PMAP identifies all applicable mitigation requirements.

1. FACSFAC VACAPES and FFAECC have been tasked with assisting the United States Fleet Forces Range Complex Support Team in tracking the types and numbers of weapon systems, ordnance rounds, and Sound in the Water events to ensure the annual authorized number of events are not exceeded. After action email reports are required from units that conduct missile firing or gunnery exercises, Underwater Demolition, and Sound in the Water (i.e. NIXIE, VDS, EMATT and SONOBUOY) events.

2. Upon completion of the training event/exercises, expenditures, and Sound in the Water events, FFAECC/FACSFAC /USFFRCST requires an email sent to both FFAECC@navy.mil and usffrcst@navy.mil for tracking purposes and federal regulations accountability. Include the information listed below in your After Action email within **24 hours** of FINEX.

3. For GUNEX events: Unit Name/Event No./# of Missiles or Rounds Expended/Type Ordnance Expended (NALC).

4. For NIXIE events: Unit Name/Event No./# Minutes NIXIE was on in the active mode.

5. For VDS events: Unit Name/Event No./# of times the VDS was deployed/retrieved in the water.

Note: Deploying the system once and then recovering the system is counted as one event.

6. For EMATT events: Unit Name/Event No./EMATT NALC/Number of EMATTs expended.

7. For SONOBUOY events: Unit Name/Event No./SONOBUOY NALC/Number of SONOBUOYs expended.

305. SERVICE REQUEST REQUIREMENTS. Fleet Area Control and Surveillance Facility (FACSFAC) Virginia Capes (VACAPES) along with other east coast FACSFACs have the responsibility for scheduling and de-conflicting large areas of water and airspace along the east coast and Gulf of Mexico for Navy and DoD activities. The FFAECC located at FACSFAC VACAPES serves as the single point of contact for scheduling with the FACSFACs, DoD, and civilian agencies for the coordination of air/sea space, ranges, and Fleet training support assets for the following:

a. Unit level training events for commands that require fleet training assets, to include Afloat Training Group basic level training events.

b. Fleet integrated and Navy-led joint exercises to include: Group Sails, Joint Warriors, Trident Warriors, Independent Certifications, Sustainment, Force Protection, Phib/MEU Integration, Joint Task Force Exercises, and C2X.

c. Commander, Submarine Forces Atlantic events that require fleet training assets to include: Torpedo exercises, Prospective Commanding Officer's operations, and Force Protection events.

d. Large Force Exercises (USN and other services) that require use of Navy controlled operation areas (OPAREAS)/ranges.

e. Naval aircraft operating on non-navy ranges.

f. Combat Systems Ships Qualification Trials, RDT&E, and special projects events that request fleet training assets, involve fleet commands conducting certification training, or as directed by higher authority.

g. Unmanned Aerial Vehicles, missile, rocket, bombing, sinking, and gunnery exercises conducted in, or adjacent to, the east coast OPAREAS.

h. Foreign military ships and aircraft conducting events in East Coast OPAREAS to include the Standing NATO Maritime Group and UNITAS.

i. Surface target and contract air services support for navy fleet training. Fleet training support assets include:

1. Air/sea space
2. Aerial targets
3. Seaborne targets
4. Training Support Vessels
5. Electronic warfare assets
6. Contracted air services

j. For requesting services other than those listed in para. 304.a-i, units can submit requests directly to the applicable FACSFAC via DCAST.

305.1. Contracted Air Services (CAS). CAS aircraft satisfy many routine training requirements. Where special equipment, performance, or techniques are required, include this information by selecting the correct type of asset/pods required for your service under the “Range Asset” section of the services request. Refer to COMUSFLTFORCOM 3502.2 for amplifying information on aircraft services. CAS services shall not be confirmed without an OPAREA/air services request (via DCAST or para 303) and a subsequent approval reply from FACSFAC. In all cases, communication procedures delineated in paragraph 103.5 shall be followed while controlling service aircraft. Capabilities and offered services are outlined in the CAC enabled FFVC Sharepoint website (<https://usff.portal.navy.mil/sites/cnal-cmds/facsfacvacapes/default.aspx>) under the CAS link. Adhere to the following guidelines when requesting aircraft services from FACSFAC VACAPES:

a. FACSFAC VACAPES is the sole scheduler of CAS for the VACAPES, Jacksonville, Gulf of Mexico, and Puerto Rican OPAREAS. FACSFAC VACAPES shall be an action addressee on all requests for CAS aircraft regardless of airspace scheduling facility (i.e. FACSFAC JAX, NAS PENSACOLA).

b. For OPAREA clearance with regard to exercises involving CAS aircraft, the appropriate scheduling agency as listed in ref (b) must also be an action addressee. Aircraft must remain within DoD controlled Warning Areas unless prior coordination has been completed with the FACSFAC VACAPES Oceanic Airspace Coordinator (757) 433-1233, DSN 433-1233.

305.2. DRONE/SURFACE TARGET SERVICES. BQM-74 drone and surface target services shall be initially addressed to FFAECC using request form per Chapter 4 and Appendix E.

306. TARGET RANGE REQUEST REQUIREMENTS.

a. FACSFAC VACAPES (FFVC) Dare County Bombing Range Scheduler, (757) 433-1221/1286 (DSN prefix 433) is responsible for scheduling the Navy portion of Dare County Bombing and Electronic Combat Range (R-5314), Stumpy Point Bombing Range (R-5313), Albermarle (R-5302), Harvey Point Department of Defense Testing Facility (R-5301), and associated special use airspace (Pamlico A&B MOAs, Phelps A, B, and C MOAs, Hatteras B East and Hatteras B West ATCCAs). All aircraft desiring to deliver ordnance on Navy Dare and Stumpy Point ranges are required to be familiar with FACSFACVACAPESINST 3710.1 (series) available at <https://usff.portal.navy.mil/sites/cnal-cmds/facsfacvacapes/default.aspx>

b. 4OSS/OSOF Wing Scheduling, commercial (919) 722-2129 (DSN 722), is responsible for scheduling the Air Force portion of the Dare County Bombing Range (R-5314). Requests are to be submitted in accordance with Air Force Instruction 13-212 Air Combat Command Supplement, dtd 29 April 2010.

307. HATTERAS B EAST AND HATTERAS B WEST ATCAAS AND PAMLICO A/B MILITARY OPERATIONS AREA (MOA) REQUEST REQUIREMENTS. FFVC Range

Scheduler, commercial (757) 433-1221/1286(DSN prefix 433), is responsible for scheduling the Hatteras Air Traffic Control Assigned Airspace and the Pamlico A and B Military Operations Areas. Follow scheduling requirements set forth in paragraph 305.

a. FFVC Target Scheduler is the sole scheduler for the Pamlico MOAs, Palmetto Point Range, Harvey Point DoD Testing Facility, Hatteras B-East/West ATCAAs, and R-5313B,C, D.

b. Units will provide FFVC with their range time requests via message, email, or weekly “gatetime” scheduling conference a minimum of 14 days prior to the Monday of the affected week. Include any special considerations with the request. All range time and airspace requests will receive priority in accordance with USFF OPOD 2000-11 and /or CSFWLINST 3722.1 (series). FFVC will confirm requests on Wednesday prior to the Monday of the affected week. FFVC will postrange schedules on the Naval Aviation Community (NAC) Website: <https://wttesters.navair.navy.mil/nac/tacts/login.aspx>.

c. Scheduled periods must be canceled by contacting FFVC Target Scheduler at 757-433-1221/1222, or Authorized NAC users can cancel or add missions via NAC Website.

308. CHANGE REQUESTS. Changes to operations and exercises are recognized as a necessity in order to optimize training that must rely upon varying equipment and material conditions. FFAECC will accept all changes to requests for OPAREAS and services; however, since changes involving services or exclusive use of OPAREAS may affect multiple users, FFAECC’s ability to accommodate these changes will depend upon sufficient notice for proper coordination. Changes will be submitted via DCAST as soon as possible. If it is a critical change a telephone liaison to notify FFAECC of requested changes is strongly encouraged. If IP services are not available, regardless of whether or not telephone liaison has been made, the request shall be followed by record message traffic to FFAECC OCEANA VA. The format for a change request message is the same as that for the original request, except the subject line shall indicate the message request is a change and shall reference the date-time-group (DTG) of the original request message. If the FACSFAC VACAPES OPSKED has been published, change requests must reference the OPSKED DTG and each affected event number. Changing hot or exclusive events requires **72 working hours** notification.

309. CANCELING REQUESTS. Requests for areas and services normally exceed availability. It is important that cancellations are made as soon as the need for area/services no longer exists. Cancellations may either cancel the original DCAST Event request or portions thereof. It is the user's responsibility to inform all participants.

a. If the FACSFAC VACAPES OPSKED has been published, submit an event change via DCAST to cancel.

b. If event cancellation is greater than 24 hours out, submit an event change via DCAST to cancel.

c. If event cancellation is less than 24 hours out, submit an event change via DCAST to cancel. In the case of emergencies or no IP services, contact FFVC Area Coordinator via telephone at (757) 433-1320, DSN 433-1320.

310. CANCELING BACK-UP EVENTS. Back up events are not normally scheduled; however, because of the high demand of assets, the unpredictability of inclement weather, and the desired flexibility to maximize training opportunities, it may be necessary to schedule back-up events. Back-up events are sometimes scheduled for events such as missile exercises, IMPASS, and Contract Air Services. When a back-up event is scheduled, it is incumbent upon the requestor to contact FFAECC to cancel the back-up event if it is not required. Failure or delays in contacting FFAECC could result in the unnecessary expenditure of contract or government funding. Back-up events may be cancelled by telephone, radio communication nets, and secure chat. When canceling a CAS asset also inform the CAS Scheduler as well as FFAECC. CAS Scheduler contact information: (757) 433-1221/1286 (DSN prefix 433) or FFVC_OCEN_CAS@navy.mil.

311. OPERATING SCHEDULE. The Operating Schedule (OPSKED) for all FACSFAC VACAPES OPAREAS is transmitted on Wednesday. When the transmittal day falls on a holiday, the OPSKED is transmitted the previous day. The OPSKED is a multi-part message starting with DTGs XX2000Z. The OPSKED may require transmission of a multiple part message, DTGs will be sequential in order starting with DTGs XX2000Z.

NOTE: DCAST is a dynamic scheduling tool that is updated on a near real-time basis and will therefore always be more current than the FACSFAC VACAPES Weekly Schedule. Users are highly encouraged to utilize DCAST as the primary reference for FACSFAC's operating schedule.

a. Due to the enormous customer base and limited staffing, users should refer to the FACSFAC VACAPES weekly OPSKED or DCAST to obtain event numbers.

b. FFAECC will make requested changes to the OPSKED if they do not adversely impact other scheduled events. Additions, changes, and cancellations will be published in revision messages to the OPSKED. These messages will be numbered sequentially, i.e. FACSFAC VACAPES OPSKED XX-YY REVISION ONE (1) DTG XX1901Z.

311.1. Scheduling Priorities. Scheduling priorities for areas and services under the cognizance of FFVC/FFAECC are derived from COMUSFLTFORCOM OPORDER 2000. Refer to Appendix D of this manual for scheduling priorities. This priority system is used for initial scheduling purposes only. Any conflict between two or more requests of the same priority that cannot be resolved by FFAECC will be referred to USFF for resolution.

311.2. Gunnery Exercise Scheduling.

a. The FFVC AOR encompasses all of the OPAREAS discussed in Chapter II of this document.

b. Requests shall be submitted to FACSFAC VACAPES two weeks prior to event to best guarantee OPAREA availability. Area and services requests should be submitted through DCAST. A minimum lead time of 72 hours is required for FACSFAC VACAPES to submit the required Notice to Mariners (NOTMAR) and coordinate with external agencies.

Note: Surface ships will only be provided a hot area with a max ALT ceiling of 5K feet to conduct 5-inch/76MM and/or CIWS PACFIRE exercise.

Note: If scheduled to conduct PACFIRES while operating under the TACTS (W72 2A, 2B, 3A, and 3B), max ALT is limited to 4k feet.

c. Gunnery areas: GUNEXs can be scheduled in all surface grids of the FFVC. Areas W-386 K1-K4, W-50, and W-72 (3B) have a standing 24 hour NOTMAR in effect. You can enter your request in DCAST; however, you must contact the FACSFAC VACAPES Area Coordinator at 757-433-1320, DSN 433-1320 to get approval.

Note: Operating areas are not ranges nor are they Restricted areas.

d. For GUNEXs that involve ordnance sizes of .50 cal and smaller, an assigned area and a formalized service request is not required.

e. Commanding officers are authorized to conduct these events in accordance with procedures in para. 304.i and 311.2. For GUNEXs where the ordnance size exceeds .50 cal, the requesting unit shall submit a service request per para. 302.

f. Communications: Units conducting GUNEXs or any hazardous events are required to maintain two-way radio communication with FFVC. Primary means of communication is HF Primary 4373.4 (4372); FACSFAC monitors using callsign "Giantkiller." Chat will be used as primary communications when line of sight UHF or HF communications are unavailable. Primary chat room is CTF80_AOR_FWO/TAO; FACSFAC monitors under FFVC_AC. For hazardous operations, communications will be established and maintained 1 hour prior to and during any live firing. Communication checks shall be conducted every 15 minutes while the live fire event is in progress until completion. Units shall report the COMEX and FINEX of the firing event to FFVC with the scheduled event number.

g. Securite calls: FFVC requires that securite calls will be made by the unit conducting live fire events. These securite calls will begin 1 hour prior to event start and continue every 15 minutes until event FINEX. Securite calls will be made over BTB channel 12/16.

h. Range clearance: The OCE/CO has the responsibility for range clearance utilizing all available assets. CO's judgment, vigilance, and a thorough understanding of expected detection range for all electronic sensors are required to ensure the range is clear when conducting live fire events beyond visual range.

i. Rounds expended: Upon completion of all live fire events, Commanding Officers are required to report all ordnance fired in the FFVC AOR to include unit name, event number, number rounds expended, type ordnance expended (NALC) to USFFRCST@NAVY.MIL.

j. Altitudes for Gunnery Events: Every gunnery system has a maximum altitude that the projectile can travel. Maximum altitudes for large caliber guns often exceed 40k ft. To schedule every gunnery event up to the maximum ordnance altitude would preclude the good stewardship and use of the OPAREA and would severely impact the multitude of users that train daily in the

OPAREAS. This scheduling requirement does not remove the commanding officer's responsibility for range safety, range clearance, or batteries release. FFVC will schedule gunnery events as follows:

1. Pre Action Calibration firings (PACFIRE): **Surf to 5k ft.**
 2. Gunnery exercises with static surface targets: **Surf to 5k ft.**
 3. IMPASS events: **Surf to 5k ft.**
 4. Basic Phase Certifications with mobile surf targets: **Surf to 5k ft.**
 5. CIWS or main battery TDU events: **Surf to 50k ft.**
 6. Intermediate Certification events with dynamic mobile targets: will be scheduled to support certification requirements.
 7. Surface-to-Air gunnery events: will be considered on a case by case basis and scheduled to best fit the requirements.
 8. Specialized Gunnery Testing and RDT&E events requiring higher altitudes: will be considered on a case by case basis and scheduled to best fit the requirement.
 9. Any gunnery events that do not meet the above parameters: will be scheduled on a case by case basis to best fit the requirements.
- k. Gun Casualties: In the event of a gun casualty (hot gun), immediately contact the FFVC Area Coordinator (via 757-433-1320 (DSN 433-1320), chat, HF, or SATHICOM). FFVC ATC personnel will real time clear the area around the casualty until the situation is rectified. In the event you are unable to reach FFVC, broadcast a warning on MAD(guard) to aircraft in area.

311.3. Real-Time Scheduling. W-386 (K1-K4), W-50, and W-72 (3B) have a 24 hour Notice to Mariners (NOTMAR) issued. These areas can be scheduled in advance or real-time scheduled for hazardous/exclusive events (GUNEX, BOMBEX, etc.) on a first-come first-served basis. W-72 (Area 3B, 1B1, 1C1, and 1C2) and W-122 (Area 18) are available for real-time Nixie/Towed Array streaming. Requests can be entered in DCAST; however, you must contact the FACSFAC VACAPES Area Coordinator at 757-433-1320, DSN 433-1320 get approval.

312. EVENT COORDINATION. To ensure optimum utilization of scheduled assets, the coordination procedures listed below have been established. These procedures shall be adhered to or loss of services shall result.

- a. Letters of Instruction (LOI). A LOI is required for all missile firing exercises. Refer to ref (c) for details and format. FFAECC Hazardous Event Coordinator (HEC) is the single point of contact for all MISSILEX questions. FFAECC HEC can be reached at (757) 425-2670 or FFAECC@navy.mil.

b. Pre-Exercise (PRE-EX) Messages. Units receiving clearance for events involving services from units not embarked or in company shall transmit a PRE-EX message to be received by the servicing unit and FFVC not less than 48 working hours prior to exercise commencement. Units with a standing Letter of Agreement (LOA) with a servicing unit do not require a PRE-EX for exercises covered by the LOA. All participating/servicing units must be action addressees. FFVC shall be an action addressee on any PRE-EX involving CAS and will pass the information on to the contractor. The message need not repeat the information contained in the OPSKED, but shall reference the FACSFAC VACAPES OPSKED DTG and event number(s) from the appropriate OPSKEDS (e.g., VACAPES, JAX) plus provide any appropriate amplifying data. Pre-exercise messages are not required when a face-to-face briefing is held with all exercise participants including a representative from FACSFAC VACAPES. The following format shall be used for PRE-EX messages for events involving aircraft services:

FM REQUESTING UNIT
TO FFAECC OCEANA VA
FACSFAC VACAPES OCEANA VA
INFO OTHER UNITS INVOLVED
BT
CLASSIFICATION
SECINFO/(clas)/(originating country)//
MSGID/GENADMIN,USMTF,2008/(unit)//
SUBJ/PRE-EX FOR EVT (APPROPRIATE OPSKED EVENT NUMBERS)//
REF/A/DESC:DOC/FACSFAC VACAPES OCEANA VA/(date)//
REF/B/MSGID:RMG/FACSFAC VACAPES OCEANA VA/(opsked DTG)//
REF/C/DESC:DOC/(originator)/(date)//
NARR/REF A IS FFVC OPSMAN. REF B IS FFVC WEEKLY OPS
SCHEDULE UPDATE MESSAGE. REF C IS FXP (appropriate FXP number.)//
POC/(name)/(rank)/UNIT:(originator)/NAME:(Location)/
TEL:(at sea phone number)/EMAIL:(unclass email)/ SMAIL:(class email)//
/SMAIL:FFVCAREACOORD2@NAVY.SMIL.MIL/
GENTEXT/REMARKS/1. IAW REFS A AND B, THE FOLLOWING IS IN
REF C FORMAT:
A. EXERCISE TO BE CONDUCTED: (include title and event number)
C. OCE:
G. BLUE FORCES:
H. ORANGE FORCES:
I. TIME ZONE TO BE USED: ZULU
J. COMEX:
JJ. FINEX:
N. AREA OF EXERCISE: (include RDVU LAT/LONG or OPAREA Surface Grid)
P. ANTICIPATED RUNS: (include mission profiles and EW POD codes)
U. COMMUNICATIONS: (include primary/secondary freq, JANAP 119 callsign, TACAN
Channel/Identifier and Homer freq)
W. ACTIONS FOR EMERGENCIES (include lost comm procedures)
X. SAFETY INSTRUCTIONS:
XX. AIRCRAFT ALTITUDE ASSIGNMENTS: (include deconfliction for multiple aircraft)
//

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313. AIRCRAFT CARRIER AIRSPACE COORDINATION MEETINGS. In accordance with ref (e), FACSFAC VACAPES shall conduct an Airspace Coordination Planning Conference prior to each at sea period that shall involve air operations within FACSFAC VACAPES or FAA ARTCC airspace. Representatives from the following activities should attend these planning conferences if the operations impact their area of responsibility:

- a. ARTCCs (Military Operations Specialist)
- b. TRACON/RATCF
- c. Local ATREPs or NAVLOS
- d. Battle Group Staff Air Operations
- e. Aircraft Carrier Operations/Air Operations/Combat Direction Center
- f. Carrier Air Wing/Squadron Operations
- g. Fleet Replacement Training Squadrons
- h. Functional Wing
- i. COMNAVAIRFOR

Some representatives may be omitted when feasible.

CHAPTER IV

MISSILE FIRING EXERCISE (MISSILEX) PROCEDURES

401. GENERAL. Procedures in this chapter are mandatory for all missile exercises conducted in warning and restricted areas under the jurisdiction of FFVC. When safety matters or operating procedures require further definition, such clarification shall be requested from FFVC. Specific procedures or sequences for missile exercises shall be delineated in a Letter of Instruction (LOI) (see Appendices I and J) and the Range Safety briefing. Where FFVC is unable to provide range control, or where FFVC deems it more operationally advantageous to delegate this function, the cognizant range control entity shall be designated in writing by FFVC CO as Range Control Officer (RCO) for a specific operation instead. In some instances it may be appropriate for FFVC to enter into a Memorandum of Agenda (MOA) with a qualified organization that is capable of providing range services that equal or exceed those of FFVC and has the need to execute recurring operations on a routine basis. FFVC shall designate in writing the RCO to assume responsibility for safe conduct of the exercise (refer to Appendix L). FFVC shall assure the ability of the range control entity to comply with the procedures of this manual and the MISSILEX LOI.

401.1. Definition of Terms. The following terms apply to all types of missile exercises conducted in FFVC OPAREAS and are defined for clarity in describing missile firing procedures and range safety requirements. These terms do not cover every situation. When appropriate, use of common Air, Land, Sea Application (ALSA) communications should be utilized.

a. Cleared to fire. The OCE/Safety Observer has received a GREEN RANGE from the Range Control Officer (RCO) and all safety and pre-briefed firing parameters have been met. Only the OCE/Safety Observer shall transmit the words CLEARED TO FIRE or FIRE.

b. Red Range. A non-participating contact is on the range within the predicted missile/target hazard area or the range is unavailable for use. This call, which shall be made by any unit observing an actual or potentially unsafe situation, immediately cancels any clearance to fire and GREEN RANGE.

c. Green Range. The RCO holds no non-participating contacts within the predicted missile/target hazard area and the time frame is within the available range period. Only the RCO shall declare a GREEN RANGE. Once given, the Safety Observer or OCE, where applicable, may give a CLEARED TO FIRE if he/she determines all other safety parameters have been met. A GREEN RANGE does not in itself constitute a CLEARED TO FIRE authorization.

d. Missile Hazard Area (MHA). An area on the surface of the earth and the airspace immediately above/originating at the launch point, within which the fired missile(s), including BQM target(s), TALD (Tactical Air Launched Decoy) or major fragments thereof, shall be contained (either as a result of maximum aerodynamic/ballistic capability or controlled flight termination). The MHA will vary according to launch parameters and characteristics of the particular missile involved. Under no circumstance will any portion of the MHA extend beyond the confines of assigned Special Use Airspace. Normally derived from Range Safety Operation Plan (RSOP) (without destruct device) or Range Safety Approval (RSA) (with destruct device).

e. Officer Conducting Exercise (OCE). Commanding Officers of the ship, squadron or air wing charged with responsibility for the MISSILEX briefing, promulgation of the LOI, and overall safety of the exercise. The OCE or designee shall personally conduct the exercise and designate Range Safety Officers in accordance with applicable instructions.

f. Range Control Officer (RCO). Shall be a qualified E-7 or above and designated in writing by the CO of FACSFAC VACAPES for any missile exercise conducted in FFVC OPAREAS. At the discretion of the FFVC CO, RCO duties may be delegated outside the command for missile exercises. The Commanding Officer may allow RCO duties to be combined with OCE duties if safety parameters can be met and it is deemed operationally advantageous.

401.1.1. Air-to-Air Missile Exercise Terminology. The following terms shall be used to the maximum extent possible in all air-to-air missile firings conducted in FFVC operating areas:

- a. Abort. Terminate this portion of the exercise. Ensure switches are safe.
- b. Armstrong. Pilot call to Safety Observer indicating that missile is armed.
- c. Break the Drone. Command from Safety Observer to Drone Controller to initiate maximum performance turn for drone preservation purposes.
- d. Boolah-Boolah. Target is destroyed.
- e. Buzzer. Firing aircraft has Sidewinder IR tone.
- f. Cleared to Arm. Firing aircraft is cleared to arm missile(s).
- g. Cleared to Fire. Firing aircrew is cleared to release briefed missile(s) when all pre-briefed parameters are met. Only the airborne Safety Observer may authorize a CLEARED TO FIRE or transmit the word FIRE.
- h. Contact (With BRAA or bullseye). Radar contact on target or tow/launch aircraft.
- i. Red Range Continue. Non-participating unit lies within MHA, but it is expected to be clear prior to shot time/range (between the shooter and the range). GREEN RANGE will be issued when the MHA clears the non-participant.
- j. Duck Away. TALD launched.
- k. FOX-1-Sparrow, FOX 2-Sidewinder, FOX 3-AMRAAM. Indicates trigger squeeze and launch of appropriate missile.
- l. Hotshot. Safety Observer calls to ignite flare augmentation.
- m. Hung Missile. Firing attempted but the missile has not left aircraft.

- n. Lights Out. Firing aircraft secures radar.
- o. Say Range Status. Interrogative call from Safety Observer to RCO requesting range condition in effect. Only the RCO may transmit the words GREEN RANGE.
- p. Knock it off. Cease engagement of any target. Clear flight path and check switches safe.
- q. Smoke the Drone. Pilot/Safety Observer call requesting smoke augmentation of target drone.
- r. Shoot No Earlier than/No Later than Lines. Issued to limit the length of the missile hazard area and define where weapons can be released. Shoot no earlier than/after than lines will be based on latitude/longitude or range bearings from a shore TACAN station.
- s. Sunlamp. Visual on flare or IR augmented drone.
- t. Tally Ho. Target visually sighted.
- u. Turn the Drone. Execute pre-briefed maneuver to facilitate missile firing.

401.1.2. Surface-to-Air Missile Exercise Terminology. The following terms shall be used to the maximum extent possible in all surface-to-air missile firings conducted in FFVC operating areas:

- a. Birds Affirm. Fire Control locked onto target.
- b. Birds Away. Missile has been launched.
- c. Break Engage. Cease tracking the target. Do not fire at the target and, if firing has occurred, do not allow missiles in-flight to intercept the target.
- d. Cease Fire. Continue tracking the target. Do not fire at the target, but if firing has occurred, allow missiles in-flight to intercept the target.
- e. Cleared to Fire. Cleared to expend ordnance.
- f. Contact (BRAA). Radar contact on target.
- g. Hold Fire. Emergency order. Do not fire at the target, but continue tracking. If firing has occurred, do not allow missiles in flight to intercept the target.
- h. Mark Delta. Initiate command destruct procedures to destroy missile in-flight.
- i. Mark India. Missile intercept with target.
- j. Say Range Status. Interrogative call to RCO requesting current range condition in effect.

401.1.3. Air-to-Surface Missile Exercise Terminology. The following terms shall be used to the maximum extent possible in all air-to-surface missile firings conducted in FFVC operating areas:

- a. Armstrong. Pilot call to Safety Observer indicating he has armed the missile.
- b. Bruiser Away. Missile has been launched.
- c. Cleared to Arm. Firing aircraft is cleared to arm missile(s).
- d. Cleared to Fire. Firing aircraft is cleared to fire briefed missile(s) when all pre-briefed launch parameters are met. Only the airborne Safety Observer may authorize a CLEARED TO FIRE.
- e. Captured. Aircrew has identified and is able to track a specified A/G target with an onboard sensor.
- f. Contact. (With BRAA or bullseye). Radar/FLIR contact on target.
- g. Hung missile. Firing attempted, but missile has not left aircraft.
- h. Say range status. Interrogative call to RCO requesting current range condition.
- i. Rifle Away. AGM-65 Maverick launch.

401.1.4. Harpoon Missile Exercise Terminology. The following terms shall be used to the maximum extent possible in all Harpoon missile exercises conducted in FFVC operating areas:

- a. Bulldog Away. Surface/Sub-surface launched anti-ship missile.
- b. Cleared to Fire. Firing aircraft/ship is cleared to launch briefed missile(s) when all pre-briefed launch parameters have been met. Only the airborne Safety Observer in the case of air launches or the OCE in the case of surface launches may authorize a "CLEARED TO FIRE".
- c. Contact. (With range and bearing). Radar contact on target.
- d. Misfire. Firing attempted, but missile has not launched.
- e. Impact. Missile has impacted target or water.
- f. Say Range Status. Interrogative call to RCO requesting current range condition in effect.

402. MISSILEX REQUESTS. Units desiring to conduct missile exercises in FFVC OPAREAS shall contact FFAECC at FFAECC@navy.mil. Preliminary information should include desired dates, unit(s), ordnance, and target requirements. FFAECC will resolve any scheduling conflicts and confirm the availability of required assets. FFAECC can provide examples of missile exercise documents such as target request messages and safety briefs to streamline the process.

402.1. Targets. Aerial and surface targets available for fleet training are provided by NAVAIR Atlantic Targets Marine Operations (ATMO) det Norfolk. FFAECC serves as the scheduling agent for all fleet training operations that require NAVAIR ATMO det Norfolk assets and services and will provide information on the NAVAIR target inventory. Target presentation is dependent on user preference, performance and control characteristics of the target, and safety requirements of the area. Appendix N lists targets available for fleet training and can be provided upon request. In most cases, a unit must obtain an allocation for target destruction in the event that a target may be lost or destroyed.

402.2. Exercise Areas. Missile exercise areas are determined in accordance with environmental and operational constraints. FFAECC will provide information regarding feasible locations for the planned operation. Exercises that require BQM-74E aerial targets are normally conducted in R-6606/W-50/W-72 using NAVAIR ATMO ground launch facilities located at NAS Oceana Dam Neck Annex. BQM-74E targets may be air-launched or launched from maritime platforms when considered operationally advantageous and subsequent to funding approval.

402.3. Laser Operations. FFVC is designated as a certified laser range. Specifics may be found in chapter VIII of this instruction.

402.4. Telemetry(TM). TM will be coordinated by FFAECC when requested and funding is available.

403. MISSILEX SCHEDULING. FFAECC is the single point of contact for all FFVC missile exercises and all east coast exercises requiring ATMO services or targets. For FFVC missile exercises, FFAECC will coordinate primary and back-up missile exercise dates to be promulgated in the FFVC OPSKED. After promulgation of the weekly FFVC OPSKED, changes or additions to a missile exercise are not normally feasible due to scheduling conflicts and Notice to Mariners (NOTMAR) lead time requirements. The OCE shall notify FFAECC of all changes and cancellations to primary and back-up dates as soon as possible and then FFAECC will notify all participants.

404. PARTICIPATING UNITS AND RESPONSIBILITIES. The following is a list of primary exercise participants:

a. Missile Firing Unit or OCE:

(1) Establish/verify target requirements and request target/missile allocations.

(2) Submit requests to FFAECC.

(3) CVN/CVW/Squadrons shall request E-2 support for range clearance/surveillance and AUTOCAT from CSG assets. If an E-2 is unavailable, FFAECC will coordinate suitable commercial services pending funding. For all other units, FFAECC will coordinate E-2, P-3/ P-8, or commercial support.

(4) Promulgate necessary pre-exercise information and LOI required to fulfill FXP, NATOPS, and tactical manual requirements.

b. FFAECC:

(1) Coordinate all required air assets, targets, and schedule airspace/sea space.

(2) Liaise with OCE and/or designated representatives, FACSFAC VACAPES, OPSO/RCO and all service providers.

(3) Confirm Target allocation.

(4) Obtain cost estimates when required.

(5) Coordinate commercial helo recovery when required.

c. FACSFAC VACAPES:

(1) Promulgate the exercise area(s) via OPSKED.

(2) Provide range safety, control, and surveillance.

(3) For missile exercises using smaller Missile Hazard Areas (MHA) such as RIM-7 or AIM-9, RCO duties may be delegated to an outside agency at the discretion of the FFVC CO if safety parameters can be met and it is deemed operationally advantageous.

d. NAVAIR ATMO det NORFOLK:

(1) Provide target launch, control and recovery (where applicable).

405. LETTER OF INSTRUCTION (LOI). An LOI is required for all missile exercises. (Other documents such as test plans may be substituted for an LOI at the discretion of the FFVC CO.) The OCE shall provide FFVC and all participating units a draft document LOI at the earliest opportunity. Advance liaison with FFVC may serve to identify possible problems early and provide extra time for resolution. The final hard copy LOI should be provided to FFVC and to all participants two weeks prior to the event. The LOI shall include requirements for the conduct of the exercise including the timeline for all events. It shall be the basis of the MISSILEX range safety briefing. Message format may be used to promulgate the LOI. See Appendix I and J for sample LOI message formats.

406. PRE-MISSILEX EXERCISE BRIEFINGS. In order to ensure a complete understanding of firing procedures and participant responsibilities, a MISSILEX range safety briefing should be given by the OCE or designated representative no earlier than 96 hours and no later than 24 hours prior to the exercise. Contact FFAECC or see Appendix K for a sample MISSILEX safety brief. At a minimum, the following personnel should be present:

- a. For aviation commands: The Safety Observer and all firing aircrew.
- b. For surface commands: Commanding Officers and designated representatives.
- c. ATMO det NORFOLK representative (for target presentation) and/or TALD aircraft aircrew.
- d. FACSFAC VACAPES: Range Control Officer (RCO)
- e. Surveillance Aircraft: E-2 Mission Commander, when applicable.

407. RANGE SAFETY. This paragraph defines the parameters within which missile exercises shall be conducted. Range safety shall be affected by compliance with the following range safety criteria:

a. In-flight Missile Safety. FFVC must approve the MHA template for each type of missile and for each missile firing scenario (air-to-air, surface-to-air, and air-to-surface). MHAs are dependent upon conditions such as launch platform altitude/speed, target altitude/speed, intercept range, and missile flight termination criteria. Adherence to prescribed safety criteria for each missile and target is mandatory.

b. Area To Be Cleared. FFVC shall issue the NOTAM/NOTMAR when required for the area. The MHA shall be clear of non-participants. MHA requirements:

(1) Must lie entirely within the NOTAM/NOTMAR area.

(2) MHA borders may be no closer than 2.5 miles from the border of the NOTAM /NOTMAR area.

c. Weather. Firings shall not be conducted unless weather conditions are in conformance with the following:

(1) Air-to-Air. 5,000-feet/5 nautical miles (NM) visibility between layers.

(2) Air-to-Surface. VFR, ceilings 500 feet greater than planned missile flyout.

(3) Surface-to-Air. Wind less than 50 knots relative.

(4) BQM. VFR (1,000 feet and 3 NM visibility). Normally SEA STATE 2 or less is required for BQM target recovery. Final determination will be made ATMO.

d. Missile Destruct Systems. When applicable, a destruct system shall be installed and operative.

e. Area Activation Requirements. Under no circumstances shall a missile exercise be conducted in an area or a range which is not covered by appropriate NOTAM/NOTMAR. FFVC is responsible for notification of the proper agencies to ensure they are published.

407.1 Waiver of Range Safety Criteria. Normally, only operations which meet all the safety criteria specified for a particular missile to be employed may be scheduled. However, it is recognized that deviations from the above described criteria may be necessary if mission objectives are to be achieved. Whenever a deviation from established criteria is determined to be necessary, a formal request shall be submitted to FFVC Commanding Officer. The request for waiver, along with supporting data shall be submitted as early as practical to preclude any delay. Supporting data should include:

- a. A statement of the technical requirement which makes the waiver necessary.
- b. An engineering study which analyzes the increase in risk which would result if the waiver is granted.

407.2. Range Clearance Factors. Missiles shall be fired only after a "GREEN RANGE" has been declared by the RCO and firing clearance has been granted by the OCE/Safety Observer. "GREEN RANGE" by the RCO is based on:

- a. Communications. Exercise participants shall have direct, continuous two-way voice communications with FFVC. Loss of direct communications shall result in "RED RANGE." Cancellation shall result if communications are not restored.
- b. Surveillance. Surveillance indicates no non-participating air and surface contacts within the MHA.
- c. Safety. No known conditions exist which would result in a safety hazard.

407.3. Termination/Delay of Exercise. It is the responsibility of all participants to use all available means to ensure the safety of all ships, submarines and aircraft in and around the exercise area. In those instances where information available indicates the exercise may not be continued safely, the OCE or designated representative shall terminate the operation. Any participant observing an unsafe or potentially unsafe situation shall call "RED RANGE."

408. MISSILE EXERCISE PROCEDURES. Procedures in this section are applicable to any missile exercise utilizing normal servicing units under the cognizance of FFVC. Specific course rules and OPAREA procedures for the missile firing area concerned must be included in the LOI and MISSILEX safety and pre-flight briefings.

408.1. Additional Requirements for Air-to-Air Events.

- a. Firing aircrew shall know the correct maneuvering missile envelope and fire only within those parameters.

- b. No single aircraft shall be loaded with two conflicting telemetry (TM) packages.
- c. Telemetry (TM) checks shall be conducted on deck on the assigned TM frequency.

408.2. Safety Observers. For some aviation missile exercises, the OCE may delegate responsibilities for the conduct of the missile exercise to the Safety Observer. This designation shall be noted in the LOI. Safety Observers shall be present at the MISSILEX safety briefing. Fleet squadron Safety Observers shall be Lieutenant Commanders (O-4) and above, or type-wing weapons school graduate and be designated as Mission Commanders. Experienced Fleet Replacement Squadron (FRS) Lieutenants/Captains (O-3) may act as Safety Observers if they are designated as such in writing. In the event the primary Safety Observer is unable to participate, the exercise may proceed if the alternate attended the MISSILEX safety briefing.

408.3. Range Surveillance and Safety Responsibilities. FFVC is responsible for ensuring that range supervision, communication, coordination, and surveillance of missile exercises are in compliance with range safety procedures and applicable directives in the warning areas. Specific responsibilities are:

a. All Units:

(1) Safety is the responsibility of all units. All units must maintain a sharp lookout and broadcast the position, course, and speed of non-participating air and surface contacts.

(2) Any participating unit noticing a current or developing unsafe situation shall call "RED RANGE." The firing unit shall immediately turn missile power switches off and ensure switches are safe.

(3) Continuous two-way voice communications shall be maintained or termination of the exercise shall result.

(4) The phrase "CLEARED TO FIRE" shall not be broadcast by anyone except the OCE or Safety Observer.

b. The RCO shall:

(1) Declare range status. The RCO alone has the authority to declare a "GREEN RANGE."

(2) Supervise range surveillance utilizing airborne surveillance aircraft, shore-based radar, and tactical data links.

(3) Provide clearance to launch aerial targets.

(4) Establish or change missile firing unit's position and orientation of the MHA prior to the time of firing.

(5) Order "RED RANGE," "HOLD FIRE," or "BREAK ENGAGE" as necessary to ensure that a participating or non-participating unit is not endangered by continuation of the exercise.

(6) Ensure the missile/target and subsequent destruction are contained within the defined MHA.

c. The Surveillance Aircraft shall:

(1) Report all surface and air contacts in or approaching the scheduled missile exercise area either via data link or range/bearing calls from a reference point as dictated by the RCO.

(2) If data link is not operable, provide surface situation update every 15 minutes or as requested by the RCO.

d. The OCE shall:

(1) Comply with applicable range safety criteria for the missile/target employed.

(2) Execute "LIGHTS OUT" as necessary to preclude endangerment of participating or non-participating units.

(3) Ensure that no missiles are launched after the RCO or any participating unit transmits "RED RANGE." The RCO must transmit "GREEN RANGE" before the exercise may continue.

(4) Ensure that "CLEARED TO FIRE" is given and missiles are launched only after having received "GREEN RANGE" call from RCO.

(5) Order "RED RANGE," "HOLD FIRE," or "BREAK ENGAGE" as necessary to ensure that participating or non-participating units are not endangered by continuation of the exercise.

e. The Commanding Officer of a Firing Unit shall:

(1) Comply with applicable range and safety instructions and destruct criteria for the particular missile employed.

(2) Ensure the missile and all missile components will be contained within the designated MHA.

(3) Notify the RCO if unable to comply with this requirement.

(4) Order "BREAK ENGAGE," "CEASE FIRE," or "HOLD FIRE" as necessary to ensure that participating or non-participating units are not endangered by continuation of the exercise.

f. The Safety Observer shall: Ensure all of the following conditions have been met prior to broadcasting "CLEARED TO FIRE":

(1) The RCO has declared a "GREEN RANGE."

(2) No surface or non-firing air contacts are within or approaching the predicted MHA.

(3) The firing aircraft has reported a "CONTACT" or "CAPTURED" ("TALLY-HO" and "BUZZER" for AIM-9). To ensure that the firing aircraft has locked onto the target, the aircrew shall transmit bearing and range to the target and closure (Vc) every five miles.

(4) The drone shall be observed to be turning before a "CLEARED TO FIRE" may be issued for rear quarter AIM-9 firing.

408.4. BQM-74 Target Procedures. BQM-74 targets, when launched from Dam Neck, shall be controlled by ATMO det NORFOLK under the direction of FFVC. If an embarked target detachment is providing BQM-74 services, targets shall be launched and controlled by ATMO det NORFOLK under the direction of the OCE/OTC assisted by the RCO.

a. All participating units shall know the target profile and receive confirmation from the RCO and OCE when the target is inbound.

b. Clearance for shore drone launch shall come only from the RCO. Clearance for embarked drone launch shall come only from the OCE/OTC.

c. The RCO shall transmit safe launch headings and the OCE/OTC shall acknowledge by reading back the headings.

d. The RCO shall transmit "GREEN RANGE" at or before the drone has established its inbound run and the range is confirmed free of any non-participating contacts. The inbound run commences at the Initial Point (IP) as designated by the LOI.

NOTE: During BQM events, a BQM shall not launch with less than 40 minutes of range time remaining or within one hour of sunset.

408.5. TALD/ITALD. An air-launched target limited to pre-programmed maneuvers or waypoints may be augmented with Lunenburg lens or RF device. See applicable TACMAN. Requires NCEA approval.

a. TALD launching Aircraft: Per NAVAIR flight clearance.

b. Launching Parameters: A pre-programmed pitch command for flight path control requires a specific true mach number for launch velocity at a given altitude.

c. The TALD hazard area is a pie-shaped area 15 degrees either side of the launch point. The length of hazard area radii is a function of the glide path and launching altitude.

d. ITALD hazard area is dynamic, see applicable TACMAN.

e. Safety of all players, particularly the TALD aircraft, is paramount to all other considerations.

f. TALD/ITALD launch parameters shall be briefed at the safety brief and must include.

(1) TALD aircraft true airspeed, altitude, and heading.

(2) TALD program or ITALD program, speeds, points.

(3) A prebriefed evasive maneuver shall be worked out for the TALD aircraft. Alternately, the TALD aircraft must otherwise be beyond the fire control radar angular sector coverage so as not to be illuminated. Sector scan mode cannot be used after target acquisition is initially made.

409. HARPOON PROCEDURES. For detailed HARPOON procedures consult the appropriate HARPOON Missile Firing Guide. Advanced liaison with FFAECC is required in order to coordinate target availability, specific missile firing parameters, safety considerations, OPAREAS, and surveillance. Only partially fueled HARPOON missiles may be fired in FFVC OPAREAS without an internal destruct system installed and a unit capable of enabling the destruct system on station.

410. HARM MISSILE PROCEDURES. Detailed HARM procedures are beyond the scope of this instruction. Advanced liaison with FFAECC is required in order to coordinate target availability, specific missile firing parameters, safety considerations, OPAREAS, and surveillance.

411. AIR-TO AIR-MISSILES. The following missiles are approved for expenditure in FFVC OPAREAS: AIM-7 (Sparrow), AIM-9 (Sidewinder), and AIM-120 (AMRAAM). For any Air-to-Air missiles not listed please contact FFAECC for additional guidance.

411.1. Missile Hazard Area (MHA). MHAs are defined by either appropriate tactical manuals or RSOPs/RSAs.

411.2 Range Safety Operational Plans (RSOPs). RSOPs are for missile systems with an approved flight termination system. For RSOP information contact FFAECC.

411.3 Range Safety Approvals (RSAs). RSAs are for missile systems without an approved flight termination system. For all RSA information contact FFAECC.

411.4. Range Clearance Requirements. Range clearance will differ for each individual missile exercise due to different MHAs.

411.5. Targets. Targets commonly used in FFVC areas for Air-to-Air missile exercises include LUU-2, TALD, ITALD, BQM-74

411.6. Environmental Impact. Fleet users should consult the current version of PMAP to determine if any the environmental restrictions exist for their intended ordnance. Other users may contact FFAECC for assistance for ordnance employment based on Environmental Impact Statement (EIS).

412. AIR-TO-SURFACE MISSILES. The following missiles are approved for expenditure in FFVC OPAREAs: AGM-54 (Maverick), AGM-88 (HARM), AGM-114 (Hellfire), APKWS. For any Air-to-Surface missiles not listed please contact FFAECC for additional guidance.

412.1. Missile Hazard Area (MHA). MHAs are defined by either appropriate tactical manuals or RSOPs/RSAs.

412.2. Range Safety Operational Plans (RSOPs). RSOPs are for missile systems with an approved flight termination system. For all RSOP information contact FFAECC.

412.3. Range Safety Approvals (RSAs). RSAs are for missile systems without an approved flight termination system. For all RSA information contact FFAECC.

412.4. Range Clearance Requirements. Range clearance will differ for each individual missile exercise due to different MHAs. Refer to ref (c).

412.5. Targets. For suitable targets for Air-to-Surface missile exercises contact FFAECC.

412.6. Environmental Impact. Contact FFAECC approved areas for missile use based on Environmental Impact Statement (EIS).

413. SURFACE-TO-SURFACE MISSILES. For any Surface-to-Surface missiles please contact FFAECC for additional guidance.

413.1. Missile Hazard Area (MHA). MHAs are defined by either appropriate tactical manuals or RSOPs/RSAs.

413.2. Range Safety Operational Plans (RSOPs). RSOPs are for missile systems with an approved flight termination system. For all RSOPs refer to <https://nawcwg.navair.navy.mil/rsafety/>, ref (c).

413.3. Range Safety Approvals (RSAs). RSAs are for missile systems without an approved flight termination system. For all RSA information contact FFAECC.

413.4. Range Clearance Requirements. Range clearance will differ for each individual missile exercise due to different MHAs.

413.5. Targets. For suitable targets for Surface-to-Surface missile exercises contact FFAECC.

413.6. Environmental Impact. Refer to PMAP or Contact FFAECC for approved areas for missile use based on Environmental Impact Statement (EIS).

414. SURFACE-TO-AIR MISSILES. The following missiles are expended in FFVC OPAREAs: RIM-7 (Sea Sparrow), RIM-66/67/156 (SM-2), FIM-92 (Stinger), RIM-116 (RAM), and RIM-162 (ESSM). For any Surface-to-Air missiles not listed please contact FFAECC for additional guidance.

414.1. Missile Hazard Area (MHA). MHAs are defined by either appropriate tactical manuals or RSOPs/RSAs.

414.2 Range Safety Operational Plans (RSOPs). RSOPs are for missile systems with an approved flight termination system. For all RSOP information contact FFAECC.

414.3 Range Safety Approvals (RSAs). RSAs are for missile systems without an approved flight termination system. For all RSA information contact FFAECC.

414.4. Range Clearance Requirements. Range clearance will differ for each individual missile exercise due to different MHAs.

414.5. Targets. For suitable targets for Surface-to-Air missile exercises contact FFAECC for amplifying info.

414.6. Environmental Impact. Refer to PMAP or Contact FFAECC for approved areas for missile use based on Environmental Impact Statement (EIS).

CHAPTER V

FLIGHT IN INTERNATIONAL AIRSPACE

501. POLICY. Policy regarding operations and firing over the high seas is contained in DoD Flight Information Publication (FLIP), General Planning, Chapter 8. The information is derived from DoD Directive 4050.1 which is also enclosure (1) to OPNAVINST 3770.4 (Series).

502. INTERNATIONAL AIRSPACE. International airspace begins at the outer limit of a nation's sovereign territorial claim (e.g., 12 NM from the United States coast and as much as 12 NM is recognized for other countries). International Civil Aviation Organization (ICAO) procedures normally apply in international airspace and the ICAO coordinates agreements for certain nations to provide flight services within designated areas. State (e.g., military) aircraft are not bound by ICAO regulations. However, it is the policy of the DoD that all U.S. military aircraft and firings shall operate with due regard for the safety of all air and surface traffic. Further, when practical and compatible with the mission, US military aircraft operating on the high seas shall observe:

- a. International Civil Aviation Organization flight procedures.
- b. Reasonable warning procedures with regard to the military aircraft of all nations.

(1) Warning Areas. The purpose of a warning area is to warn non participating pilots of the potential danger from activities being conducted. A warning area may be located over domestic waters, international waters, or both. In accordance with Executive Order 10854, all warning area proposals must be coordinated with the Departments of State and Defense.

503. OFFSHORE AIRSPACE. Offshore airspace is that airspace beginning at 12 NM from the United States coast and ending at the Oceanic Control Area (CTA)/Flight Information Region (FIR) boundary. FAA domestic Air Traffic Control (ATC) procedures apply in this airspace even though it is international airspace. Domestic ATC procedures allow closer separation criteria due to radar availability and more reliable communications. OPNAVINST 3710.7 (series) stipulates that within offshore airspace and in the San Juan Domestic Control Area, naval aircraft shall either have an IFR clearance or be within an airspace reservation (Altitude Reservation (ALTRV)), ATC assigned Airspace (ATCAA), or a Warning Area. "Due regard" flights are authorized only for emergencies or operational necessity. Operational necessity is defined as a mission associated with war or peacetime operations in which the consequences of an action justify accepting the risk of loss of aircraft and crew. When operating outside of Warning Areas, ALTRVs are required at or above 5,500 feet when north of 34°N and at or above 2,700 feet when south of 34°N within offshore airspace.

504. OFFSHORE CONTROLLED AIRSPACE. The FAA has designated and defined Offshore Airspace Areas within offshore airspace. The base of these areas is stipulated on FLIP charts (e.g. Atlantic Low on FLIP Chart L-35 is defined as 5500 ft. and above). Below the base of an Offshore Airspace Area is uncontrolled airspace. The FAA provides no clearances or airspace reservations in uncontrolled airspace. Requests to the FAA to use uncontrolled airspace are unnecessary and inappropriate. When a Warning Area is activated, that area is no longer controlled airspace until released (or, when FAA is “Using Agency”, returned) to the FAA.

505. OFFSHORE AIRSPACE PROCEDURES

a. Transit clearance through controlled airspace between Warning Areas can normally be accomplished on a real-time basis by the FACSFAC(s). Large scale evolutions or requirements for certain altitudes should be preplanned with the FACSFAC(s). Long range practice strikes along the east coast Warning Areas which enter airspace east of W-386 or W-107, southeast of W-105, or enter the oceanic CTA/FIR should be addressed to FACSFAC VACAPES OAC.

b. Transit out of a Warning Area into an oceanic CTA/FIR can be accomplished with a flight plan and coordinated with the FACSFAC or facility controlling the Warning Area. Prior to an aircraft entering Oceanic CTA/FIR boundary they must report due regard. Additional coordination is required if the Warning Area and oceanic CTA/FIR do not share a common boundary or if an ALTRV or ATCAA and oceanic CTA/FIR do not share a common boundary. ADIZ requirements should be taken into account and international NOTAMs should be consulted to avoid known hazardous operations. Paragraph 507 applies.

506. OCEANIC AIRSPACE. Oceanic Airspace is that airspace within the CTA/FIR boundary. The base of controlled airspace for each CTA is noted on the appropriate FLIP chart (e.g., New York Oceanic, North of 34N above 5,500 feet MSL and New York Oceanic south of 24N and Miami Oceanic above 2,700 feet MSL.) Below the base of the CTA is uncontrolled airspace. Flight clearances and airspace reservations are not available in uncontrolled airspace.

507. OCEANIC OPERATIONS NOT CONDUCTED UNDER ICAO PROCEDURES (DUE REGARD/OPERATIONAL).

Note: Taken from FLIP General Planning Chapter 8.

a. There are certain operational situations that do not lend themselves to ICAO flight procedures such as: military contingencies; classified missions; politically sensitive missions; or routine aircraft carrier operations or other training activities. Operations not conducted under ICAO flight procedures are conducted under the “Due Regard” or “Operational” prerogative of military aircraft and are subject to one or more of the following conditions:

1. Aircraft shall be operated in VMC; or
2. Aircraft shall be operated within radar surveillance and radio communications of a surface radar facility, airborne facility; or

3. Aircraft shall be equipped with airborne radar that is sufficient to provide separation between themselves, aircraft they may be controlling and other aircraft; or

4. Aircraft shall be operated outside controlled airspace.

b. The above conditions provide for a level of safety equivalent to that normally given by ICAO ATC agencies; and fulfill United States Government obligations under Article 3 of the Chicago Convention of 1944 which stipulates there must be “due regard for the safety of navigation of Civil aircraft” when flight is not being conducted under ICAO flight procedures. Essentially, flight under the “due regard” or “operational” option obligates the military aircraft commander to act as their own ATC agency and to assume responsibility to separate their aircraft from all other air traffic.

c. Flight under above provisions shall be regarded as deviations from normally excepted operating procedures and practices, and shall not be undertaken routinely. Except for preplanned mission, pilots or commanders exercising “due regard” authority shall record the details in writing, and upon request from higher authority, furnish a detailed report. Planners should reference DoD directive 4540.1, use of Airspace by United States military aircraft and firings over the high seas, prior to planning missions which will exercise “due regard”.

508. OCEANIC OPERATIONS CONDUCTED USING IFR FLIGHT PLANS. Operations such as long range practice strikes can be accomplished using IFR flight plans provided the following conditions are met:

a. Communications are satisfactory to activate the flight plan.

b. Aircraft originating from an aircraft carrier or other aviation capable platform will commence route of flight at a pre-briefed altitude or must be able to receive and acknowledge clearance to climb and report level.

c. Normal oceanic position reports can be passed to the Controlling Agency.

d. ATC-assigned altitudes can be accepted without unsatisfactory degradation of operating range.

e. Refueling can be accomplished within assigned altitudes unless radio communications are satisfactory to request changes in altitude and report level.

Note: Deviations from cleared route of flight and altitudes are not permitted without ATC approval except in case of emergencies. IFR flight plan requests should be sent to the appropriate naval air station far enough in advance for entry into the National Airspace System computer.

509. AIR REFUELING WITHIN NEW YORK OCEANIC AIRSPACE.

a. All air refueling operations within New York Center's airspace shall be conducted on an approved Altitude Reservation (ALTRV) at assigned flight levels or altitudes except within 180 NM of Bermuda. Tankers joining receivers must be on an ALTRV to join/leave a receiver's ALTRV. ALTRV altitudes will normally be approved at or below FL280. Both receivers and supporting tanker must be established in an ALTRV at least 60 NM prior to entering and must continue in that ALTRV at least 60 NM after departing New York oceanic airspace.

b. Supporting tankers shall not join receivers within the New York Oceanic Control Area using an Individual Flight Plan File Point (IFPPF) instead of an ALTRV.

c. If an IFPPF routing is used prior to entering or after leaving New York Oceanic Airspace, the flight plan information shall be submitted with the ALTRV approval request (APREQ). This information is for ATC planning purposes only.

d. An ALTRV APREQ submitted to the FAA Central Altitude Reservation Function (CARF) shall be filed in accordance with FAA JO, Special Operations, 7610.4 (series).

CHAPTER VI

OCEANIC AIRSPACE COORDINATION (OAC) PROCEDURES

601. GENERAL. To provide general procedures for requesting an Altitude Reservation (ALTRV) within Oceanic/International Airspace and scheduling Oceanic Stationary Altitude Reservation Areas (OSARA).

602. RESPONSIBILITY. All message requests for Oceanic Airspace and ALTRVs within 180 NM of Bermuda should be addressed to FACSFAC VACAPES OCEANA VA for coordination and approval. FACSFAC VACAPES OAC will schedule OSARAs and coordinate requests by Navy users for ALTRVs which lie within offshore controlled airspace and within the Oceanic Control Area (CTA)/Flight Information Region (FIR) east to the Azores, and from Iceland south to Puerto Rico, to include the Gulf of Mexico.

603. ALTITUDE RESERVATION (ALTRV). A stationary ALTRV may be a box defined by latitude and longitude or a circle defined by radius in nautical miles around a latitude/longitude point or a track defined by a number of nautical miles (usually 10 NM) either side of a line between latitude/longitude points. It can be a single altitude or a block of altitudes. Although start and stop times are part of an ALTRV approval, a single flight should activate its ALTRV by radio while enroute (activate early if UHF/VHF communications will be lost due to distance) and deactivate the ALTRV when exiting. ALTRVs for exercises with multiple flights of aircraft or certain classified missions will be automatically activated, but the OCE of the exercise should notify FACSFAC VACAPES OAC if canceling the ALTRV. International Civil Aviation Organization (ICAO) aircraft are rerouted around ALTRVs so early cancellations reduce the impact upon the airspace system.

Note: An ALTRV, though covered by NOTAM, does not prevent aircraft which are not on ICAO flight plans from entering the ALTRV. For security reasons all ALTRVs are given a name not associated with the user or type operation conducted.

604. OFFSHORE AIRSPACE. Offshore airspace is that airspace beginning at twelve NM from the U.S. coast and ending at the CTA/FIR boundary. Though it is International Airspace, FAA domestic Air Traffic Control (ATC) procedures apply. ALTRVs are required for all altitudes within offshore controlled airspace.

605. OCEANIC AIRSPACE. Oceanic Airspace is that airspace within the CTA/FIR boundary. The base of controlled airspace for each CTA is noted on the appropriate FLIP chart (e.g., New York Oceanic north of 34N 5,500 feet MSL, New York Oceanic south of 24N and Miami 2,700 feet MSL). Below the base of the CTA is uncontrolled airspace. Flight clearances and airspace reservations are not available in uncontrolled airspace.

606. REQUEST PROCEDURES. Liaison by phone with the OAC (DSN:433-1233/25, COMM(757)433-1233/25), during normal business hours, prior to drafting the request is recommended. Normal business hours are from 0730 to 1530 Eastern Standard Time. Immediate after hours request will be forwarded to the Facility Watch Supervisor. All named OSARAs with the exception of Jay, George, and Ibex require a minimum of six hours to schedule. This allows time for NOTAM submission and is un-waiverable. All requests for an ALTRV and OSARAs shall include the following information:

- a. Requested altitudes (list minimum and maximum acceptable altitudes).
- b. OSARA name or area (list latitudes/longitudes or radius in nautical miles of a latitude/longitude point or number of nautical miles (usually 10 NM) either side of a line between latitude/longitude points).
- c. Times (ZULU only)
- d. Point of Contact (POC):
 1. Name
 2. Command
 3. Phone Number

607. DUE REGARD/OPERATIONAL.

a. OPNAVINST 3710.7(Series) stipulates that within offshore airspace and in the San Juan Domestic Control Area, “due regard” flights are authorized only for emergencies or operational necessity. Operational necessity is defined as a mission which the consequences of an action justify accepting the risk of loss of aircraft and crew. Operations conducted under the “due regard” or “operational” prerogative of military aircraft are subject to one or more of the following conditions:

1. Aircraft shall be operated in Visual Meteorological Conditions (VMC); or
2. Aircraft shall be operated within radar surveillance and radio communications of a surface radar facility; or
3. Aircraft shall be equipped with airborne radar that is sufficient to provide separation between themselves, aircraft they may be controlling and other aircraft; or
4. Aircraft shall be operated outside controlled airspace.

b. The above conditions provide for a level of safety equivalent to that normally given by ICAO ATC agencies. Essentially, flight under the “due regard” or “operational” option obligates the military aircraft commander to act as his own ATC agency and assume responsibility to separate his aircraft from all other air traffic.

c. FAA agencies shall not normally be advised of “due regard” flights except within 180 NM radius of Bermuda.

608. FACSFAC VACAPES OAC OSARA. FACSFAC VACAPES OAC has OSARAs which may be scheduled by name. If an OSARA does not fit the user's requirements, an ALTRV can be created to the user's specifications.

Note: Operations involving invisible hazards to aircraft may be scheduled in an adjacent area so strict compliance with boundary limits and adjustments for navigation error are essential. Military Assumes Responsibility for Separation of Aircraft (MARSA) is specified between adjacent areas. OSARA names and coordinates are as follows:

- a. IBEX - SFC to FL200 within 3941N 7115W, 3959N 6830W, 4000N 6700W, 3900N 6700W, 3830N 6900W, 3820N 6957W, 3841N 7155W, 3907N 7153W
- b. OAK ALPHA - SFC to FL210 within 3907N 7153W, 3841N 7155W, 3820N 6957W, 3830N 6900W, 3700N 6900W, 3700N 7240W, 3715N 7240W, 3757N 7300W, 3820N 7248W, 3846N 7230W
- c. NOVEMBER - SFC to FL200 within 4000N 6700W, 4000N 6600W, 3700N 6600W, 3700N 6900W, 3830N 6900W, 3900N 6700W
- d. OAK OSCAR - SFC to FL250 within 3600N 6200W, 3600N 6600W, 4000N 6600W, 4000N 6200W
- e. OAK BRAVO - SFC to FL250 within 3700N 7240W, 3700N 7000W, 3500N 7000W, 3500N 7248W, 3506N 7240W
- f. OAK CHARLIE - SFC to FL250 within 3300N 7543W, 3500N 7248W, 3500N 7000W, 3300N 7000W
- g. CIRCUS - SFC to FL250 within 3300N 7543W, 3300N 7300W, 3000N 7300W, 3000N 7600W, 3248N 7600W
- h. MANATEE - SFC to FL250 within 2900N 7500W, 2900N 7200W, 2600N 7200W, 2600N 7500W
- i. RIFLE - within 150NM radius of 3723N 5900W

- j. SLAM - within 150NM radius of 3935N 5300W
- k. CHRIS - within 150NM radius of 3222N 5651W
- l. WHEAT - within 150NM radius of 3424N 5051W
- m. TROLL - within 150NM radius of 2722N 5910W
- n. JAY - SFC to FL250 from 50NM to 150NM radius of the BERMUDA (BDA) VOR btwn the BDA035 radial and the BDA075 radial.
- o. GEORGE - SFC to FL250 from 50NM radius to 150NM radius of the BDA VOR btwn the BDA095 radial and the BDA165 radial.

CHAPTER VII

CARRIER AIR WING FLY-OFF PROCEDURES

701. BACKGROUND. Historically, Carrier Air Wing fly-offs have encountered numerous difficulties, both in planning and the actual fly-off stages. The following information is a step by step outline of the procedures promulgated in reference (d), but is not all inclusive:

a. Adherence to the procedures outlined, and dictated by reference (d) are mandatory and will greatly enhance fly-off efficiency and safety.

b. FACSFAC VACAPES is the aircraft carrier's single point of contact on all matters that require coordination with the FAA and/or Naval Air Stations within our OPAREA. These evolutions can be, but are not limited to, safe-on-deck reports, filing of flight plans, ALTRVs and SUA reservations. To schedule airspace contact FACSFAC VACAPES Schedules office at 757-433-1218 or by email at FFAECC@navy.mil. For ALTRV request, MOS request, or any Air Traffic Control coordination contact FACSFAC VACAPES Airspace office at 757-433-1233/25 or by email at FFVC_OCEN_AIRSPACE@navy.mil.

702. PLANNING STAGE.

a. A Military Operations Specialist (MOS) must be requested by message in accordance with reference (d).

1. A minimum of six weeks prior to the scheduled arrival date from deployment.
2. A minimum of three weeks prior to the scheduled fly-off for non-deployed operations.
3. If MOS service is not required, it must be declined via message traffic.

NOTE: The MOS provided to carriers returning from deployment has proven most beneficial to the successful execution of Air Wing fly-offs. The MOS must be afforded the opportunity to help coordinate the fly-off into the National Airspace System (NAS).

b. A fly-off message shall be sent a minimum of two weeks prior to scheduled fly-off date. The format will be in accordance with reference (d). Include ALTRV request if required.

1. ALTRVs should include all routes of flight and sufficient area in the vicinity of the intended launch position to allow for join-ups and Planned Intended Movement (PIM) adjustments. Requested altitudes of FL260 and below are normally acceptable to the FAA. Requests for altitudes above FL260 heavily impact the National Airspace System (NAS) and should be made only after careful consideration of the operational necessity. The FAA can normally accommodate higher Oceanic Airspace altitudes from sunrise to 0800 local. Request Warning Area airspace in accordance with reference (d). ALTRV requests within Warning Area airspace are inappropriate and shall not be made.

2. Mode III IFF codes are coordinated through FACSFAC VACAPES and assigned for the day of the fly-off only, unless specifically noted. The number of required Mode III codes should be coordinated with FACSFAC VACAPES at least two weeks prior to the scheduled fly-off date. Operational or weather deviations should be considered and possible alternate plans identified in the message. Codes are requested per paragraph 702.b above.

c. All squadrons/units returning from major deployments (three months or longer) shall contact the NAS Oceana's Air Traffic Facility Officer at 757-433-3471 to schedule a course rules briefing. In the event an MOS is provided to the carrier, the MOS can cover the course rules brief requirement in conjunction with other airspace briefs. NAS Oceana will ensure the MOS receives all necessary support to conduct course rules brief. However, the FACSFAC MOS is not an NAS Oceana ATC procedures expert and is unable to approve/discuss NAS Oceana policies.

d. An unclassified flight plan proposal message shall be transmitted five working days prior to the proposed fly-off date. The format will be IAW reference (d). Flight plan proposal messages shall be unclassified. Classified information shall be transmitted by separate message. Flight plan entry shall be verified by the ships Air Operation Office two hours prior to launch.

1. All appropriate FAA and DoD ATC Facilities should be listed as action addressees.

2. Unless scheduled, proposed route of flight should not penetrate Warning Area airspace due to the possibility of conflicting with hazardous operations. Route of flight should be through Atlantic Routes via appropriate IFR egress fixes (e.g., OXANA, ZIBUT, and CROAK).

3. Aircraft departing the same egress point shall be separated by five minutes if at different altitudes or twenty minutes if at the same altitude. Aircraft speeds and types should be considered. Egress points are defined as the first fix on a published IFR route and located on the perimeter of the ALTRV or, in the case of a fly-off initiated within a Warning Area, located on an airway.

4. Include spare flight plans to facilitate "late launch" aircraft or aircraft unable to join with their assigned flight. Designate spare flight plans by utilizing distinctive call signs; i.e., two letters and two numbers vice two letters and three numbers.

5. Aircraft entering an MTR must be scheduled in accordance with DoD Flight Information Publication (FLIP) AP/1B. A proposed flight plan containing an MTR does not meet the scheduling requirements. MTR scheduling and flight plan filing are two separate flight planning functions. See paragraph 104.9 of Chapter I for MTR scheduling.

703. FLY-OFF.

a. If E-2 is utilized for "middleman" services, it shall be coordinated and conducted in accordance with reference (d).

b. Experience has shown that a sequential launch of aircraft by flight composition and proposed flight plan is most effective for major air wing fly-offs. A properly sequenced launch plan significantly reduces join-up time and the confusion involved in assigning call signs, flight plans and egress times after launch.

c. Pre-flight briefs should stress the following items:

1. IFF Codes. Flight leaders should squawk assigned codes as soon as practicable after launch.

2. Call Signs. Aircrews shall use filed call signs at all times. DO NOT switch from filed call sign to squadron call sign and side number.

3. Changes to Filed Flight Plans. Changes to filed flight plans should only be made if absolutely required for flight safety. Approved fly-off flight plans have been carefully considered as to their impact on the NAS and changes could seriously impair ATC's ability to handle all flights expeditiously. Unless otherwise cleared by ATC, adhere to filed flight plans at all times.

4. Egress Point Procedures. All flights shall depart the egress point at their assigned altitude and time. Aircraft shall not use the egress point for join-up, holding, or climbing or descending to enroute altitude. Proper separation between flights shall be established prior to the egress point unless previously coordinated.

5. Squadrons requesting a fly-by at their home station shall coordinate with the home station air operations officials at least one week prior to the fly-off.

CHAPTER VIII

LASER OPERATIONS

801. GENERAL. Laser operations at FFVC are in compliance with OPNAVINST 5100.27B/MCO 5104.1C and are approved as long as laser operations adhere to ref (h). Laser operations and scheduling are required for all laser firing scenarios. Only those systems approved by the Navy Laser Safety Review Board (LSRB) for general training scenarios are approved for use in the FFVC AOR (class 3B and 4 lasers). Force-on-force scenarios are not normally approved and will not be scheduled without safety measures established by the LSRB and the expressed coordination and consent of the requesting command's Laser Systems Safety Officer (LSSO) and FFVC's Range Laser Safety Officer (RLSO).

802. OPAREA/WARNING AREA REQUEST REQUIREMENTS. At a minimum 72 hours advance notice is required for scheduling of laser operations for NOTMAR requirements. All requests for Laser Operations are submitted per Chapter 3, section 302.

803. LASER TRAINING AREAS (LTAs)/LASER TARGET AREAS (TAs). FFVC AOR contains five (5) LTAs that are designated for air use, one (1) LTA that is designated for Surface (ground) use, and two (2) LTAs that are designated for sub-surface use. FFVC AOR contains ten (10) TAs that are designated for air use and two (2) TAs that are designated for surface use

804. LASING AREA RESTRICTIONS. All ranges noted support buffer angles of 5 (gyro-stabilized), 10 (stabilized), and 15 (un-stabilized) mrad; with the exception of W-72 Area 1A/B and W-386 Area AIR-K, which support a 5 mrad buffer angle. There are no heading restrictions on air-to-surface lasing for both fixed- and rotary wing aircraft conducting air-to-surface lasing operations. Both fixed- and rotary-wing aircraft can fire from any direction (0° clockwise to 360°) to targets that are within the specific TA. Lasers are only operated within the LTA boundaries; Laser Hazard Danger Zones (LHDZ) are listed in ref (h). At no time should lasing start, continue through, or end within a LHDZ.

805. LASER SAFETY REVIEW BOARD (LSRB) LETTERS. If a unit is scheduling a laser operation and is not sure FFVC can approve the operation, submit all LSRBs on the laser to the FFVC RLSO at FFAECC@navy.mil two weeks in advance of scheduling.

806. AIR SAFE LASING PROFILES. Air Safe Lasing Flight Profiles discussed ref (h) are not to be construed as mandated aircraft flight paths, but rather as elevation limits at a given distance from the target that distinguish between safe and unsafe laser use conditions.

807. LASER RADIATION ACCIDENT/INCIDENT REPORTING. In case of laser incident/accident, contact the Tri-service hotline: 1-888-232-3764, DSN 798-3764, or email at: esoh.service.center@wpafb.af.mil. Detailed information on the Online Reporting Form for Safety Officers or Medical Officers is contained in Appendix D of ref (h). Access the On-line Report at the listed ESOH Service Center link:
<https://hpws.afri.af.mil/dhp/OE/ESOHSC/pages/index.cfm?id=336>

CHAPTER IX

JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS)/LINK-16 OPERATIONS

901. GENERAL. JTIDS has been granted privileges by the National Telecommunications and Information Administration (NTIA) to operate in the same frequency band as certain NAVAIDS on a non-interference basis. In order to preclude interference, all platforms (both domestic and foreign) operating JTIDS/Link 16 within 200 NM of the United States must be in compliance with all Link 16 operational restrictions. These restrictions are intended to prevent safety of flight interference with aircraft navigational aids operating in the same frequency spectrum. In accordance with COMUSFLTFORCOM OPTASK LINK, FACSFAC VACAPES is designated lead Geographic Area Assignment Coordinator (GAAC) for NBOA, ACOA, VCOA and CPOA.

902. SCHEDULING JTIDS/LINK-16. The typical JTIDS/Link 16 authorization provided by the Federal Aviation Administration (FAA) for Time Slot Duty Factor (TSDF) is 40/20. Use of a valid 40/20 TSDF assignment only requires GAAC scheduling to ensure TSDF limits are not exceeded in a specific geographic area. Use of JTIDS/Link-16 at the 100/50 TSDF level requires FAA approval through Navy and Marine Corps Spectrum Center (NAVMARSPECCN) prior to use and shall be coordinated through the local GAAC. Any requirements that exceed TSDF assignment for a given area should be detailed and justified in the JTIDS/Link 16 scheduling coordination request message and requested 60 days in advance.

a. Officers Conducting Exercises (OCE), testing facilities, and JTIDS/Link 16 capable platforms (ships and aircraft) intending to operate JTIDS/Link 16 within FACSFAC VACAPES AOR should have their hard copy message transmitted no later than 72 hours (3 working days) prior to the event.

NOTE: Requests for large scale exercises (JTFEX, COMPTUEX) shall be submitted 60 days in advance by the CSG/ARG JICO as a consolidated request to ensure TSDF availability for the time frame and area requested.

b. Units requesting to operate JTIDS/Link 16 shall determine participating units, purpose, area of operation, start and stop times, network desired, maximum operating area TSDF/ maximum individual platform TSDF usage, whether JTIDS voice is required, and power out prior to requesting JTIDS/Link-16 use. A point of contact (POC) that can terminate activities (referred to as Stop Buzzer) is required to ensure adherence to restrictions and to resolve any violation issues. JTIDS/Link 16 scheduling coordination requests shall be unclassified. Appendix G provides format for a JTIDS/Link-16 scheduling coordination request message.

NOTE: The request message per Appendix G is to be sent UNCLASSIFIED; do not list crypto in your request message.

NOTE: The Stop Buzzer will ensure the ability to be contacted for the duration of requested period including all underway time.

15 Sep 15

c. Units shall notify the local GAAC upon completion of JTIDS/Link-16 operations or when unable to use it in the approved time frame in order to make it available for other JTIDS users.

903. JTIDS VOICE (JVOICE). There are two types of JVOICE available for use, 2.4KBS and 16KBS. Requests for JVOICE use requires FAA approval through NAVMARSPECCN prior to use therefor a 60 day lead time is required for JVOICE requests. JVOICE use shall be included in the JTIDS/Link-16 scheduling coordination request message. The FAA will provide a response the day prior to the time frame requested unless units provide an approval deadline date.

Note: An additional 2% TSDF (for 2.4KBS) or 12.5% TSDF (for 16KBS) should be added to the total platform TSDF when calculating total TSDF with JVOICE use.

904. SCHEDULING PRIORITIES. Deploying Carrier Strike Groups/Amphibious Readiness Groups and test facilities have priority over individual units operating JTIDS. In order to minimize disruptions in JTIDS operations, deploying Carrier Strike Groups/Amphibious Readiness Groups and units conducting large scale exercises are required to transmit their JTIDS/Link-16 scheduling coordination request message as soon as the requirement is known but no later than 60 days prior.

CHAPTER X

UNMANNED AIRCRAFT SYSTEM (UAS) OPERATIONS

1001. GENERAL. UAS operations shall be conducted IAW applicable FAA and DOD publications, instructions, and directives.

a. UAS operations are normally conducted in Warning and Restricted Areas. For operations that cannot be conducted in either a Warning or Restricted Area, the event must be conducted with an approved and current Certificate of Authorization or Waiver (COA) from the FAA. Due to the evolving nature of developing policies and regulations, consult with ATCP management or the Naval Representative (NAVREP) to FAA regional offices to determine current FAA policy.

b. UAS flights are scheduled as exclusive events. When scheduled as organic assets of an exercise that will operate in exclusive airspace/waterspace, UAS operations are at the discretion of, and shall be positively deconflicted by, the Officer Conducting Exercise (OCE).

1002. PROCEDURES FOR UAS OPERATIONS. Submit a request for UAS operation via DCAST to FFVC/FFAECC at least 14 days prior to the UAS operation.

a. UAS operations will only be conducted in VMC, from sunrise to sunset unless otherwise coordinated with and approved by the FACSFAC Operations Officer.

b. If operations are intended to transit outside VACAPES Special Use Airspace, provide a copy of the FAA approved COA. If the COA has not been approved by the FAA, provide copy of COA request.

c. All request procedures shall be IAW PARA 302 or 303.

1003. DEFINITIONS. Officer Conducting Exercise:

a. For single flight UAS operations the OCE shall be either the UAS Commander and/or Pilot in Charge (PIC) and assigned on line 26 of DCAST UAS request.

b. For multiple flight UAS operations the OCE shall be the most Senior UAS Commander and assigned on line 26 of Appendix H.

c. For UAS flight operations also involving mixed operations with manned aircraft, the OCE shall be the Commanding Officer of the afloat unit or the UAS Commander, whoever is senior and shall be identified on line 26 of DCAST UAS request.

d. For Large Force Exercises (LFEs) the OCE shall be designated on line 26 of DCAST UAS request, ex: Commander Carrier Strike Group Four (CSG-4).

1004. RESPONSIBILITIES.

a. Commanding Officers of the afloat units, the UAS Commander and/or Pilot in Charge (PIC) shall conduct a safety review of procedures and airspace prior to UAS Operations request being submitted.

b. FACSFAC VACAPES Schedules Office will ensure applicable units within the assigned UAS operating area are notified of operations.

c. Commanding Officers of the afloat units, the UAS Commander, and/or Pilot in Charge (PIC) shall comply with the following:

1. At least 1 hour prior to commencement of UAS operations, ensure communications with FACSFAC VACAPES via controller frequency, SATHICOM, SIPR chat, or telephone (757) 433-1230/1231.

2. OCE shall be responsible for proper deconfliction of other exercise participants in the assigned exercise area.

3. OCE shall monitor the UAS to ensure that it operates only in assigned airspace.

4. The UAS Commander and/or PIC shall ensure the UAS does not deviate from assigned airspace.

NOTE: It is imperative that the UAS remain within the assigned airspace. If an airspace spill out occurs, immediately contact FACSFAC VACAPES with information available related to last known altitude, heading, speed, or any amplifying information for projected flight expectations.

5. Immediately subsequent to receiving a UAS area spill-out, FACSFAC VACAPES will contact all units affected by the spillage to ensure to the extent possible that other aircraft remain clear of the UAS. When UAS operations have resumed in assigned airspace, FFVC will notify all units.

6. In the event of lost link, squawk 7600 and notify FACSFAC VACAPES via controller frequency, SATHICOM, SIPR chat, or telephone (757) 433-1230/1231. Provide the UAS' last known position, altitude, heading, speed and Beacon Code. Notify all aviation capable units within a 50 mile radius of the UAS' last known position, altitude, and heading. Once UAS is reacquired again notify FACSFAC VACAPES immediately.

1005. PROCEDURES FOR UAS OPERATIONS AS PART OF A LARGE FORCE EXERCISE (LFE). All LFE UAS Operations shall be scheduled through CSG-4 or the exercise/event OCE and Fleet Forces Atlantic Exercise Coordination Center (FFAECC). FFAECC will provide FACSFAC VACAPES with the UAS Operations form once submitted and approved.

a. Concurrent flight of both manned and unmanned exercise participants within an exclusive use area assigned to a specific unit is at the discretion of the OCE.

b. The OCE shall take all necessary measures to properly and positively deconflict other exercise participants operating within exclusive airspace/waterspace assigned for UAS operations

c. Participating units shall be properly briefed and concur with positive deconfliction measures prior to conducting concurrent operations in Special Use Airspace assigned for UAS operations.

APPENDIX A

BIBLIOGRAPHY

COMUSFLTFORCOM OORDER 2000-11 - Provides Guidance to USFF/CTF-80 Commands on Maintaining a Fleet Ready for Immediate Deployment to Combat Areas in case of war; Fleet Operations will be governed by this order.

COMUSFLTFORCOMINST 3502.2(Series) – Fleet Forces Exercise Coordination Center Instruction.

COMNAVAIRLANTINST 3100.1(Series) – Air Wing Fly-Off Requirements.

COMNAVAIRLANTINST 8840.1(Series) - Aerial and Seaborne Target Services.

FXP-2 - AAW Exercise - Fleet Exercise Publication. - For FACSFAC VACAPES matters, this publication mainly pertains to surface-to-air firings. Ships requiring qualification or requalification on certain weapons systems normally comply with guidelines of the FXP-2. This publication is also used by Contracted Air Services to provide users specific flight profiles during training or threat simulation exercises.

NASOCEANAINST 3710.1(Series) - Air Operations Manual. OPNAVINST 3100.5(Series) - Navy Operating Area and Utilization of the Continental Shelf.
<http://doni.daps.dla.mil/allinstructions.aspx>

OPNAVINST 3710.7(Series) - NATOPS General Flight and Operating Instruction.
<http://doni.daps.dla.mil/allinstructions.aspx>

OPNAVINST 3722.33(Series) - FAA Handbook for Special Military Operations 7610.4.
<http://doni.daps.dla.mil/allinstructions.aspx>

OPNAVINST 3770.2(Series) - Airspace Procedures Manual.
<http://doni.daps.dla.mil/allinstructions.aspx>

OPNAVINST 3770.4(Series) – Use of Airspace by US Military Aircraft and Firing Over the High Seas.
<http://doni.daps.dla.mil/allinstructions.aspx>

FAA JO 7400.8(Series) – Special Use Airspace
http://www.faa.gov/airports_airtraffic/air_traffic/publications

FAA JO 7400.2(Series) – Procedures for Handling Airspace Matters
http://www.faa.gov/airports_airtraffic/air_traffic/publications

FAA JO 7610.4(Series) – Special Operations (controlled access password required)
http://www.faa.gov/airports_airtraffic/air_traffic/publications/

14 CFR PART 91 - FAA Regulations - Policy and Procedures for Civilian/Military Operations.

CJSCM 3212.02 – Performing Electronic in the United States and Canada for Tests, Training, and Exercises.

FACSFACVAPESINST 3710.1 (series) - Navy Dare and Stumpy Point Bombing Range Users Manual.

<https://www.portal.navy.mil/comnavairfor/facsfacvacapes/DARE%20Documents/Forms/AllItems.aspx> (CaC enabled)

APPENDIX B

FACILITY PHONE NUMBERS

DSN: 433-XXXX

Commercial: (757) 433-XXXX

Executive

Commanding Officer	433-1200
Executive Officer	433-1201
Command Senior Chief	433-1202
Administrative Officer	433-1206
Quarterdeck	433-2851
Admin Fax	433-1266

Operations Department

Operations Officer/FFAECC Director	433-1219
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OI Division

OI Division LCPO	433-1239
OI Division LPO	433-1278
OI Division ALPO	433-5992
Area Coordinator	433-1320/1321/1322
Geographic Area Assignment Coordinator (GAAC)	433-1320/1321/1322
Military Training Routes Scheduling/Briefing	433-1228/1323

Schedules Division/FFAECC

FFAECC Lead	425-2671
FFAECC Schedule Writers	433-1218/1220
FFAECC Airspace Manager	425-1851
FFAECC Asset Manager	425-2672
FFAECC Hazardous Events Coordinator	425-2670
FFAECC Missile Exercise Officer	433-1215

Air Traffic Control Department

Air Traffic Control Officer	433-1217
Air Traffic Control LCPO	433-1203/1204
Air Traffic Control Training Chief	433-1235
Air Traffic Control Radar Chief	433-1214
Air Traffic Control Facility Watch Supervisor	433-1230/1231

Contracted Air Services (CAS) and Range Schedules Department

CAS Director	433-1258
CAS Schedulers/Coordinators	433-1285/1286
Range Schedulers	433-1221/1222
CAS Fax	433-1207

Electronics Maintenance Department

Electronics Maintenance Officer	433-1250
Electronics Maintenance LCPO	433-1263
Electronics Maintenance LPO	433-1253
Electronics Technician	433-1207

Airspace Department

Air Space Liaison Officer	433-1248
Assistant Air Space Liaison Officer/OAC	433-1233
Air Space Liaison Chief	433-1225

Navy Dare Range Manager

Range Manager	252-473-2206
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APPENDIX C

DEFINITIONS AND ABBREVIATIONS

Above Ground Level (AGL) - Altitude expressed in feet above ground level.

Active Air Defense (AAD)

Active Drug Interdiction (ADI)

Additional Control Areas (ACA) - Designated controlled airspace between the U.S. territorial waters and the oceanic control boundary. Areas may be numbered or named; e.g., Control 1142, or North American Control.

Air Combat Maneuvering (ACM) - Simulated air combat between two or more aircraft involving dynamic, high performance maneuvering flight. Airspace will not be scheduled below 5,000 feet MSL in accordance with COMNAVAIRLANTINST 3710.47(Series) and U.S. Air Force Regulation 51-2 ACM: Rules of Engagement.

Air Combat Maneuvering Instrumentation (ACMI) LATR Display and Debriefing System

Air Defense Identification Zone (ADIZ) - The area of airspace over land or water, extending upward from the surface, within which the ready identification, location, and control of aircraft are required in the interest of national security.

Air Filing - Aircraft desiring to file Flight Plans for departure from Special Use Airspace while under the control of FACSFAC VACAPES or the appropriate Flight Service Station at least 30 minutes prior to estimated departure.

Airman's Information Manual (AIM)

Air Intercept Control (AIC) - Positive control of air assets for detection, identification, and interdiction of hostile aircraft. AIC involves continuous vectors by controllers for target engagement.

Air Route Traffic Control Center (ARTCC)

Air Traffic Control (ATC)

Air Traffic Control Assigned Airspace (ATCAA) - Airspace of defined horizontal and vertical limits, assigned by Air Traffic Control, for the purpose of separating certain military training activities from IFR traffic. ATCAAs are used for the development of proficiency in all phases of the intercept mission, both ground and air components. Procedures governing operations within ATCAAs shall be specified in Letters of Agreement between local military authorities and the ATC facilities concerned.

FAA Air Traffic Control System Command Center (ATCSCC)

Airborne Early Warning (AEW) - Air surveillance provided by aircraft with search and identification radar.

Airborne Radar Unit (ARU)

Altitude Reservation (ALTRV) - A volume of airspace that, by agreement between the appropriate Air Traffic Control Authority and a requesting agency, is reserved for one specific period of time for the exclusive use of the requesting agency.

Amphibious Air Traffic Control Center (AATCC)

Amphibious Assault Vehicle (AAV)

Amphibious Warfare (AMW) - Attacks launched from the sea by Naval forces and by forces embarked in ships or craft, designed to achieve a landing on a hostile shore. This includes fire support of troops in contact with the enemy forces through the use of close air support or shore bombardment.

Anchor Air Refueling Track (AART)

Anti-Air Warfare (AAW) - The destruction or neutralization of enemy air platforms and airborne weapons, whether launched from surface, subsurface, air, or land platforms. It includes all the measures employed in achieving air superiority through the use of embarked or installed weapons systems.

Anti-aircraft Artillery (AAA)

Anti-Submarine Warfare (ASW) - The destruction or neutralization of enemy submarines, in order to deny the enemy the effective use of their submarines.

Area Assignment Times (AAT)

Area of Responsibility (AOR)

Atlantic City Operating Area (ACOA)

Atlantic Route (AR) - Direct airways within additional control areas (e.g., AR 9 is a direct route from Norfolk to ZIBUT intersection in the North Atlantic Control Area).

BINGO - The fuel state at which an aircraft is required to proceed from its present position to the nearest suitable divert field. The aircraft is considered to be in an emergency fuel situation. An aircraft ordered to BINGO shall be instructed to SQUAWK a Mode III Code of 7700 and shall be instructed to switch to GIANT KILLER as soon as possible. The pilot shall provide GIANT KILLER with profile altitude, descent point and other pertinent information (type emergency, operational limitations, assistance required at destination).

Bombing Exercise (BOMBEX)

Carrier Air Traffic Control Center (CATCC)

Carrier Qualifications (CQ)

Charleston OPAREA (CHASOA)

Cherry Point Operating Area (CPOA)

Closest Point of Approach (CPA)

Composite Training Unit Exercise (COMPTUEX)

Concurrent Use - A term which indicates that more than one event is scheduled at the same time within a block of an operating or warning area. All FACSFAC VACAPES areas are considered concurrent use unless specifically scheduled as exclusive.

Controlled Airspace - (Domestic Definition) Airspace of defined dimensions designated as continental control area, control area, control zone, terminal control area or transition area, within which some or all aircraft may be subject to air traffic control.

Controlled Airspace - (ICAO Definition) Airspace of defined dimensions within which air traffic control service is provided to controlled flights.

Controlling Agency - The FAA facility which may authorize transit through, or flight within, a Restricted/Warning Area in accordance with a joint use letter issued under 14 CFR part 73. Designation of the FAA as the controlling agency in Restricted and Warning airspace applies only in the period when the area is released to the FAA. Such designation does not negate, compromise or modify military control or use of the area.

Controlling Authority - The organization or military command having jurisdiction over a given operating area and/or designated special use airspace requiring annual utilization reports in accordance with OPNAVINST 3770.2 (Series).

Controlled Firing Area (CFA) - An area approved by the FAA wherein activities are conducted under the conditions so controlled as to eliminate hazards to non participating aircraft and to ensure the safety of persons and property.

Danger Area - (Air) International term equivalent to Warning Area.

Danger Zone - (Surface) Surface areas to which entrance is restricted or prohibited. Such zones are normally indicated on navigational charts as "Danger," "Restricted," or "Prohibited" areas. Note that these areas pertain to the surface and should not be confused with Special Use Airspace terms. Part 334 of the Code of Federal Regulations, Title 33, lists the Danger Zone Regulations. Applicable excerpts are contained in "United States Coast Pilot" publications.

Data Collection and Scheduling Tool (DCAST) - DCAST is an on-line, web server-based information application used to schedule training and testing events and collect range utilization data at ranges and training areas. It is the OPNAV designated scheduling tool for FACSFACs.

Dissimilar Air Combat Training (DACT) - ACM with more than one type of aircraft participating.

Distance Measuring Equipment (DME)

Domestic Airspace - The airspace overlying the United States and its territories and possessions, including the territorial waters which extend to statutory limit offshore.

Due Regard - A term indicating flight where the military aircraft commander accepts responsibility to separate his aircraft from all other air traffic.

Eastern Air Defense Sector (EADS)

Electronic Counter Measure (ECM)

Electronic Counter Counter Measure (ECCM)

Electronic Warfare (EW) - The means used to ensure the effective use of the electromagnetic spectrum by friendly forces while determining, exploiting, reducing, or denying its use by an enemy. Electronic warfare assists in the detection and targeting hostile forces while making it more difficult for the enemy to detect and target friendly forces.

Emergency Fuel - Emergency fuel is an emergency situation where the pilot shall be given priority vectors to land as soon as possible.

Entry Point (EP) - The point at which an aircraft transitions from offshore airspace to oceanic airspace.

Exclusive Use - An operating/warning area or a portion thereof that is scheduled for the exclusive use by the assigned unit(s). No other units will be scheduled at the same time in the same area. Exclusive use clearances will be designated in the FACSFAC VACAPES OPSKED and should be confirmed prior to exclusive operations.

FACSFAC Air Control Tracking System (FACTS) - The FACTS system is an automated Air Traffic Control System consisting of processing units, displays, computer programs, remote radar sites and land lines that allow all warning area airspace from Cherry Point to Narragansett Bay to be controlled from a single site.

Federal Aviation Administration (FAA)

Fleet Exercise Publication (FXP)

Fleet Forces Atlantic Exercise Coordination Center (FFAECC)

Flight Information Regions (FIR)

Flight Information Publication (FLIP)

Flight Level (FL) - A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury.

Flight Service Station (FSS)

Geographic Area Assignment Coordinator (GAAC)

Global Command and Control System (GCCS)

Ground Control Intercept (GCI) - Similar to AIC, aircraft controlled exclusively from a ground site.

Gunnery Exercise (GUNEX)

IFR Military Training Route (IR)

Independent Steaming Exercise (ISE) - Surface unit conducting independent internal exercises requiring no other restricted area clearances. ISEs are usually associated with transits through OPAREAS.

Instrument Flight Rules (IFR) - Rules governing procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan (refer to AIM). (See also IMC, VFR, and VMC).

Instrument Meteorological Conditions (IMC) - Weather conditions expressed in terms of visibility, distance from cloud and ceiling less than the minima specified for visual meteorological conditions. (See also IFR, VFR, and VMC).

Interrogation Friend or Foe (IFF)

International Airspace - The airspace that begins at the outer limits of a nation's sovereign territorial claim (e.g., 12 NM from the United States coast and as much as 12 NM is recognized for other countries).

International Civil Aviation Organization (ICAO) - An international body in the field of aeronautics, representing all member states. The function and mission of this organization is on an international scale similar to those of the FAA except that ICAO decision rests with the sovereign state.

Joint Task Force (JTF)

Joint Task Force Exercise (JTFEX)

Joint Tactical Information Distribution System (JTIDS)

JVOICE JTIDS Voice

Knots True Air Speed (KTAS)

Large Area Tracking Range (LATR)

Last Plane on Deck (LPOD)

Letter of Agreement (LOA)

Letter of Instruction (LOI)

Lost Communications Procedures - The loss of the ability to communicate by radio. Aircraft are sometimes referred to as NORDO (no radio). Standard pilot procedures are specified in 14 CFR Part 91. Radar controllers issue procedures for pilots to follow in the event of lost communications during a radar approach when weather reports indicate that an aircraft will likely encounter IFR weather conditions during the approach.

Magnetic (MAG)

Mean Sea Level (MSL) - Altitude expressed in feet above Mean Sea Level.

Military Assumes Responsibility for the Separation of Aircraft (MARSA)

Military Operations Area (MOA) - An airspace assignment of defined dimensions to separate/segregate certain military flight activities and to identify where these activities are conducted.

Military Operations Specialist (MOS) - (works for FAA)

Military Radar Unit (MRU) - Any fixed or mobile ground-based unit under the operational jurisdiction of the military services, excluding commissioned ATC facilities. Military Radar Units shall not provide ATC services.

Mine Countermeasures (MCM) - Operations by surface vessels or helicopters for locating, retrieving, and disabling mines. Usually conducted close to shore in shallow water.

Mine Warfare (MIW) - The use of mine and mine countermeasures. This consists of control/denial of sea or harbor areas through the laying of minefields and countering enemy mine warfare by the destruction or neutralization of hostile mine fields.

Minimum Fuel - Aircraft fuel state dictates the pilot can accept no undue delay upon reaching his destination.

Military Training Routes (MTR)

Narragansett Bay Operating Area (NBOA)

Naval Surface Fire Support (NSFS)

Naval Warfare Information Publication (NWIP)

Naval Warfare Publication (NWP)

North American Aerospace Defense Command (NORAD) - NORAD forces are responsible for air defense, missile warning, and limiting damage to strategic retaliatory forces and command control and communications nodes, controlling access to North American airspace and defending against an atmospheric attack.

Notice To Airmen (NOTAM) - Notice to aircraft issued as an advisory of potentially hazardous situations and changes to published procedures and/or facilities.

Notice To Mariners (NOTMAR) - Notice to ships and submarines issued as an advisory of potentially hazardous operations. NOTMAR areas shall be promulgated 72 hours prior to hazardous operations.

Oceanic Airspace - Airspace which overlies the high seas and is within FIR/CTA boundaries.

Oceanic Airspace Coordinator (OAC)

Oceanic Control Airspace - Airspace within oceanic airspace which is designated as controlled airspace (See Control Area).

Oceanic Stationary Reservation Area (OSRA)

Officer Conducting Exercise (OCE)

Officer in Tactical Command (OTC) - Senior officer present eligible to assume command or the officer he has delegated tactical command.

Offshore Airspace - Airspace between the U.S. statutory limit and the Oceanic FIR/CTA boundary.

Offshore Controlled Airspace - Airspace designated by the FAA within offshore airspace.

Operating Area (OPAREA) - (USFLTFOR) An ocean area which is defined by the geographic coordinates for use of the US Fleet Forces units for training and weapons system testing. Within this instruction, the term OPAREA, when strictly used, will apply only to surface and subsurface. This is not intended to divorce OPAREAs and Warning Areas but rather to clarify definitions

and responsibilities. Scheduling portions of Warning Areas in relation to OPAREA grid divisions remain an acceptable and efficient method of scheduling.

OPAREA Coordinator - Military command assigned operational control, scheduling authority and safety responsibility for a given OPAREA.

Operations Normal (Ops Normal) - A report in lieu of, or in conjunction with, standard position reporting. Normally, search and rescue is initiated by the unit responsible for flight safety when planned "Ops Normal" reports are not received.

Operational Order (OPORDER)

Operations Schedule (OPSKED) - Transmitted on Wednesday. Multipart message starting with DTG's XX2000Z and XX2001Z.

Operational Tasking (OPTASK)

Patuxent River Operating Area (PXOA)

Point of Contact (POC)

Port Everglades Submarine OPAREA (PEVSUBOPAREA)

Position of Intended Movement (PIM) - Position of ship or submarine with regard to expected course and speed over a specific period of time.

Pre-exercise (Pre-Ex)

Prohibited Area - Airspace identified as an area within which flight of aircraft is prohibited.

Radar Air Traffic Control Facility (RATCF)

Range Control Officer (RCO)

RDT&E Facility - A facility whose primary mission is Research, Development, Test and Evaluation. Training support is provided on a not-to-interfere basis.

Resolution Advisory (RA)

Resource Manager - Command responsible for the land, financial support, and manpower of a specific Fleet OPAREA. Scheduling Authorities are Resource Managers unless otherwise indicated.

Restricted Area - Airspace of defined dimensions within which the flight of aircraft, while not wholly prohibited, is subject to restrictions.

Round Robin Flight - Flight plan filed for aircraft departing and returning to the same airfield after a short delay in the OPAREA.

SAR On-Scene Commander - The individual in charge of a SAR that is physically on scene; usually, the first unit on the scene following a mishap.

Scheduling Agency - The organization or military command delegated the authority for scheduling a given Operating Area or special use airspace. The Scheduling Authority may retain this authority and perform the Scheduling Agency function.

Scheduling Authority - The military command or organization which has authority to schedule a given OPAREA or Special Use Airspace. In all cases within this instruction, the Scheduling Authority is the "OPAREA Coordinator" or the Special Use Airspace "Using Agency," depending upon whether the authority applies to surface/subsurface or to airspace. The term "Scheduling Authority" replaces the term "Controlling Authority" used in the previous version of this instruction due to confusion with the Special Use Airspace FAA term "Controlling Agency."

Search And Rescue (SAR)

Secret Internet Protocol Router Network (SIPRNET)

Self Escort (SELFEX) Corridor - A corridor designed for Commander Strike Fighter Wing Atlantic aircraft based at NAS Oceana to transit VFR from the TACTS Range in W-72 to R-5314 with an increased level of safety and reduced communication requirements. Utilization of SELFEX Corridor shall be in accordance with current Letter of Agreement.

Severe Weather Avoidance Plan (SWAP) - A plan to reroute air traffic to avoid severe weather along the East Coast. Releasing Warning Area airspace to the FAA provides the least disruption to the ATC system when large portions of airspace are unusable due to weather.

Special Exercises - Any exercise involving an increase in the airway traffic to/from FACSVAC VACAPES OPAREAS/Warning Areas.

Special Operating Area (SOA) - Airspace of defined dimensions within a Warning Area used for scheduling multiple operations hazardous to nonparticipants within that Warning Area.

Special Use Airspace (SUA) - Airspace of defined dimensions identified by an area on the surface wherein activities must be confined because of their nature or wherein limitations are imposed upon aircraft operations that are not a part of those activities, or both. Categories of Special Use Airspace are: Restricted Areas, Prohibited Areas, Warning Areas, Alert Areas, Controlled Firing Areas, and Military Operations Areas. The vertical limits of Special Use Airspace are measured by designated altitude floors and ceilings expressed as flight levels or as feet above mean sea level. Unless otherwise specified, the word "to" (an altitude or flight level) means "to and including" (that altitude or flight level).

State Aircraft - Military or other aircraft operated by the government of a State or Nation. General aviation and commercial aircraft of State registry are not included.

Submarine Exercise Area Coordinator (SEAC) - The SEAC is charged with the responsibility of monitoring submerged interference with local fleet operating areas. The SEAC is also responsible for ensuring that the cognizant scheduling authorities are advised when submarine transit lanes are in use.

Submarine Operating Area (SUBOA) - Area designated for submarines conducting training or operations, consisting of area 98 feet below the surface to the bottom.

Submarine Operating Authority (SUBOPAATH)

Submarine Transit Lane - Area designated for submarines conducting training or operating, normally submerged below 98 feet depth.

Surface Area - Area of ocean, from the surface down to, but not including, 30 meters (98 feet).

Surfaced Submarine Transit Lane (SURFSUBTRANSLANE) – Area designated for submarines conducting surface transits.

Tactical Combat Training System Range (TCTS)

Tactical Data System (TDS)

Terminal Radar Approach Control (TRACON) - A TRACON is an FAA facility which provides radar services to specified military and civil airports. Additional services are available within airspace assigned to a TRACON (i.e., low altitude enroute, VFR advisories).

Towed Dummy Unit (TDU)

Traffic and Collision Avoidance Systems (TCAS) – System developed to provide civilian aircraft advanced notice of a possible collision with another aircraft.

Undersea Warfare (USW)

User - The individual organization, military command or unit, aircraft or ship, which requests the area from the appropriate Scheduling Agency.

Using Agency - The organization or military command whose activity within a Restricted Area, Warning Area, or other Special Use Airspace requires the area being so designated. The Using Agency has jurisdiction over the area unless it has been released to the FAA Controlling Agency.

Variable Depth Sonar (VDS) - Sonar transducer which can be towed behind or beneath a vessel at varying depths.

VDS Coordinator - The command designated for each Operating Area responsible for the prevention of submerged interference between submarines and VDS transducers or other towed devices. The VDS

Coordinator shall process all requests for VDS operations within his area, and shall obtain appropriate area clearances from the Scheduling Authority or designated Scheduling Agency before assigning VDS Operating Areas. In many cases, the VDS Coordinator is the Scheduling Authority and/or Agency.

VFR Military Training Route (VR)

Virginia Capes Operating Area (VCOA) - The Operating Areas that lie off the east coast of Maryland, Virginia and North Carolina.

Visual Flight Rules (VFR) - Rules that govern the procedures for conducting flight under visual conditions. The term VFR is also used to indicated weather conditions that are equal to or greater than VFR minima requirements (refer to FAR part 91 and the Airman's Information Manual). (See also IFR, IMC, and VMC).

Visual Meteorological Conditions (VMC) - Weather conditions expressed in terms of visibility, distance from clouds and ceiling equal to or better than specified minima. (See also IFR, IMC, and VFR).

Warning Area - Airspace of defined dimensions outside of United States territorial waters in which exists a hazard to aircraft. Because Warning Areas are located over International Waters, flight within these areas is not legally restricted. However, pilots are advised to be aware of the activities conducted therein. Warning Area coordinates are set forth in DoD Flight Information Publications, Planning Section II, FLIP AP/1A (Special Use Airspace).

WHISKEY ALERT - The phrase “Whiskey Alert” describes the unauthorized exit or airspace boundary infringement from Special Use Airspace (SUA) or ATCAA by aircraft into adjacent controlled airspace. SUA includes Restricted Areas, Warning Areas and Military Operations Areas (MOAs).

APPENDIX D

OPAREA SCHEDULING PRIORITIES

COMUSFLTFORCOM OPORDER 2000-11 SCHEDULING PRIORITIES (As of 31Jul15)

1. General. To provide an integrated employment list for the scheduling of Fleet Forces.
2. Situation. The demand for the services of Fleet forces often exceeds the services available. The following priority list is provided as a guide for preparation of employment schedules. This list is not intended to be all-inclusive and should be used for planning purposes only. Exceptions can be made and conflicts, which cannot otherwise be resolved, will be settled on a case basis by CTF 80.

3. Execution.

- a. The following list provides an integrated employment priority for the scheduling of Fleet forces:

Priority 1: DOD Deployments in accordance with Global Force Management Allocation Plan (GFMAP).

Priority 2: Fleet Response Training Plan requirements as outlined in references (a) thru (c).

- (1) DOD/DHS training/services in support of COMPTUEX, CVN/CVW Advanced Phase Training, submarine POM certification.

- (2) Pre-deployment operational readiness inspections.

- (3) Submarine PCO Tactical Operations Certification.

- (4) Surface ship Basic Phase Type training events to achieve initial C-2 training status, including NGFS Live Fire Qualification and Maintenance FIREX I/II (does not apply to waterspace and airspace allocation, see priority 4). Successful completion of major ULT events should not be hindered by dual tasks.

- (5) CDRUSSOCOM Priority A: USA/USAF/SOC DLQ emergent qualifications to support DOD deployments in support of national policy. Deployment should be scheduled within 90 days.

Priority 3: Major Joint Exercises and Experiments

- (1) DOD/DHS training/services in support of JTFEX (Category 1 Joint Training).

- (2) Category 2 Joint Training: Component Interoperability Training (US only).

(3) Category 3 Joint Training: Joint Training (US only).

(4) Joint experimentation.

Priority 4: Unit Level Phase training and other training support:

(1) Waterspace and airspace allocation in support of Basic Phase and other unit level training/certification.

(2) Post Overhaul and Post Shakedown Availability Sea Trials and Test support, INSURV Underway Material Inspections, Combat Systems assessments (annual/pre-INSURV) and New Construction Sea Trials and associated support.

(3) ULTRA-S (sustain).

(4) Post-overhaul/commissioning combat system training.

(5) CDRUSSOCOM Priority B: USA/USAF/SOC DLQ AHIP initial pilot qualification.

(6) USAF Operational Readiness Inspections (ORI).

(7) Submarine Service Weapons Tests.

(8) Submarine Tactical Development Exercises.

(9) Submarine Tactical Readiness Evaluation.

(10) Evolutions, Priority 4 and above, scheduled at an OPAREA Coordinator scheduling conference.

Priority 5: Significant Research Development Testing and Evaluation Program Support.

(1) Service Priority 1 RDT&E Program Support.

(2) Missile System Testing.

(3) NASA System Testing.

Priority 6: Routine Operations, Exercises, Training, and Experiments:

(1) Category 4 Joint Training: Multi-national Interoperability Training.

(2) Category 5 Joint Training: Joint/Multi-national Training.

(3) Category 6 Joint Training: Inter-agency/Inter-governmental Training.

- (4) Integrated Air Wing Combat and Weapons Training Exercises.
- (5) Fleet Refresher Squadron Training - USAF/ANG/USAFR Fighter Training Units.
- (6) DOD Air Combat Training.
- (7) Fleet Carrier Qualifications.
- (8) Deck Landing Qualifications.
- (9) NASA Space Flight support.
- (10) SPECWAR/UDT/SEAL/RECON Training.
- (11) Joint Demonstrations and Evaluations.
- (12) Service Experiments.
- (13) Service Priority 2 RDT&E Program Support.
- (14) AIC/ASTAC qualification/training.
- (15) USAF/ANG/USAFR E-3 Orbits/Air refueling training not included in higher priority.
- (16) USAF/ANG Simulated Penetration Air Defense Exercise Missions.
- (17) Midshipman/Cadet Orientation and Training Programs.
- (18) School house training to achieve initial qualification for students.
- (19) CDRSOCOM Priority C and D: Other USA/USAF/SOC initial pilot qualification and AHIP pilot re-qualification.

Priority 7: Community Outreach and Support Services:

- (1) Port visits in support of Senatorial, Congressional, and USDAO requests are normally scheduled on a higher priority basis and in conjunction with higher priority operations.
- (2) RDT&E support for CNO and other DOD Priority 3 projects.
- (3) ANGLICO/EWTGLANT NGLO training.
- (4) Non-tactical Submarine PCO OPS.
- (5) CDRUSSOCOM Priority D: Other USA/USAF/SOC pilot requalification and all pilot proficiency requirements.

(6) Community relation port visits normally scheduled in conjunction with higher priorities whenever opportunities are afforded.

(7) Youth Programs and Special Interest Groups.

APPENDIX E

EXAMPLE TARGET REQUEST MESSAGE

R 220000Z APR 15
FM oce or designated rep
TO FFAECC OCEANA VA
INFO CTF 80
(ALL PARTICIPANTS OF THE EXERCISE)
NAVSURFWARCENTDIV PORT HUENEME
FACSFAC VACAPES OCEANA VA
NAVAIRWARCENACDIV DET NORFOLK VA
BT
UNCLAS
SUBJ/(AERIAL OR SEABORNE) TARGET SERVICES AND OPAREA REQUEST//
SECINFO/U/USA/USA CAN//
MSGID/GENADMIN,USMTF,2008/originator//
REF/A/DESC:DOC/COMNAVAIRLANT/31JAN2006//
REF/B/DESC:DOC/COMUSFLTFORCOM/23FEB2011//
NARR/REF A IS COMNAVAIRLANTINST 8840.1M. REF B IS COMFLTFORCOMINST
3120.26.//
POC/NAME/rnk or posit/(oce or designated rep)/LOCATION/PHONE:/EMAIL://
POC/NAME/rnk or posit/(firing unit)/LOCATION/PHONE:/EMAIL://
GENTEXT/REMARKS/1. PER REFS A AND B REQ FOL TARGET SVCS:
A. ACTIVITY REQUESTING: originator
(1) EXERCISE: MISSILE FIRING EXERCISES AT (WHAT TYPE) TARGET
PRESENTATIONS TO VALIDATE (WHAT).
(2) EXERCISE DATE/TIME: date, time(z)
(3) OCE: xxxx
(4) OPAREA(S): VACAPES R6606/W50(SURF-5K), AREA 13 (SFC-2K), W-72
1AB (1K-30K) EXC FOR DRONE TRANSIT, 1C-1F, 2C-2F, 3C-3E HOT SFC-UNL
(5) WEAPONS: # type
(6) TARGETS: #, type
(7) TARGET CLAIMANT/ALLOCATION: xxxx
(8) TARGET RECOVERY: AS COORDINATED BY FFAECC.
(9) TARGET PROFILE: if classified provide SEPCOR
(A) AUGMENTATION (RCS, RF/IR decoys, MDI. Low Alt Cruise)
(B) ALTITUDE: (MIN/MAX ALT when applicable)
(C) RANGE:
(D) SPEED:
(E) MANUVUERS:
(F) other requirements
NOTE: Repeat 1-9 as required for additional presentations
(10) OPAREA CLEARANCE: AIRTEC KING AIR FOR RANGE SURVEILLANCE.
2. OCE RESPONSIBILITIES: COORDINATE date/time/location RANGE SAFETY
BRIEF

3. REMARKS: //
BT
#0001
NNNN

APPENDIX F

EXAMPLE OPAREA REQUEST MESSAGE

FM USS BARNACLE
TO FFAECC OCEANA VA
FACSFAC VACAPES OCEANA VA
***** THE FOLLOWING ADDRESSEES ARE REQUIRED AS APPROPRIATE FOR LISTED SERVICES AND/OR OPAREA USAGE.**
NAVAIRWARCENACDIV DET NORFOLK VA
SEPTAR SVCS and TARGET SLED SVCS
NAS KEY WEST FL FOR KWOA USAGE
NAS PENSACOLA FL FOR PNCLOA USAGE
363FW SHAW AFB SC FOR W-161/W-177 USAGE
IMMEDIATE UNIT COMMANDERS AS APPROPRIATE
BT
UNCLAS
MSGID/GENADMIN/USS BARNACLE//
SUBJ/OPAREA CLNC/SVCS REQUEST VCOA/PXOA/NBOA/ACOA/CPOA//
(OPAREA AS APPROPRIATE)
REF/A/DOC/FACSFAC VACAPES/DDMMYY//
AMPN/REF A IS FACSFACVACAPESINST 3120.1(Series)//
RMKS/1. IAW REF A, REQ FOL:
A. USS BARNACLE
B. LTJG JONES, OSC SMITH, DSN, COMM and POTS PHONE NUMBERS (NOTE 1)
C. 1. 121400-1600Z JAN 00, 151300-1500Z JAN 00 (NOTE 2)
2. W-386 7CD/SURF-5,000 FEET
3. PACFIRE 5 IN/4
4. NONE
5. FLEXIBLE TWO HOURS EITHER SIDE OF REQUESTED TIME PERIOD.
D. 1. 131200-1400Z JAN 00 (PRIMARY) (NOTE 4)
141200-1400Z JAN 00 (BACK-UP)
2. W-72B (SURF-UNLIMITED)
3. MISSILEX/4
4. BQM-74
5. REQUEST PRE-MSLX BRIEF AT FFVC ON DD/MMM/YY. SECURITY CLEARANCE BY SEPCOR.
E. 1. 151600-2100Z JAN 00
2. W-72, W-122 (SURF-FL400), W-110(SURF-FL230)
3. TRACKEX/2 (NOTE 5)
4. ONE LEAR
5. ANY TWO HOUR PERIOD DURING ABOVE TIME PERIOD
F. 1. 152100-2300Z JAN 00
2. W-72B (SURF-FL400) AIR 1C,1D
3. AIC/2
4. TWO LEAR

15 Sep 15

- G. 1. 161400-1700Z JAN 00
2. W-386D/7CD, 8CD (SURF-5,000 FEET) (NOTE 6)
3. PACFIRE/6
4. NONE
- H. 1. 161900-2100Z JAN 00
2. 1C1-1D4 (SURF-29,000 FEET) (NOTE 7)
3. GUNEX CIWS/6-4
4. ONE LEAR WITH TRX
- I. 1. 162200-170600Z JAN 00
2. 1C1, 1C2 (SURF-BOTTOM)
3. VDS, NIXIE/4
4. NONE
5. ANY AREA IN W-72 BEYOND 100 FATHOM CURVE ACCEPTABLE
- J. 1. 171500-1700Z JAN 00 (PRIMARY), 171900-2100Z JAN 00 (BACK-UP)
2. W-72, W-122 (SURF-FL400); W-110(SURF-FL230)
3. TRACKEX/2
4. ONE LEAR EACH PERIOD
5. WILL SUBMIT ALTRV REQUEST IAW REF B CHAP 5 FOR AIRSPACE EAST OF WARNING AREA W-72 IF W-122 NOT AVAIL. WILL CONTACT GIANTKILLER IF BACK-UP TRACKEX IS NOT REQUIRED.
- K. 1. 171700-1900Z JAN 00
2. 1A1 (SURF-BOTTOM)
3. ANCHOR/4
4. NONE
5. MINIMUM 30 FATHOMS REQUIRED FOR INSPECTION CRITERIA.
- L. 1. 172200-2400Z JAN 00
2. W-72 (SURF-FL400), W-110 (SURF-FL230)
3. EW SVCS/4 (NOTE 8)
4. EA-6
5. REQUEST MSG SUBMITTED SEPCOR TO FLTINFOWARCEN. WILL SUBMIT SMALL SCALE ECM NOTIFICATION UPON APPROVAL OF SVCS.
- M. 1. 181200-1400Z JAN 00
2. W-122 (SURF-FL300)
3. EWTX/4 (NOTE 8)
4. ONE LEAR
5. WILL SUBMIT SMALL SCALE ECM NOTIFICATION UPON APPROVAL OF SVCS. COORDINATING DESIRED SIMULATION/JAMMING WITH FIWC
- N. 1. 181200-190400Z JAN 00
2. CPOA 2, 3
3. VDS, NIXIE (SURF-BOTTOM)/2
4. NONE
- O. 1. 181900-2100Z JAN 00
2. CPOA 11, 12 (SURF-29,000 FEET)
3. GUNEX 76MM/4
4. LEAR WITH TRX

- P. 1. 182100-2200Z JAN 00
2. CPOA 17 (SURF-3,000 FEET)
3. CHAFF/4 (NOTE 8)
4. NONE
5. SRBOC FIRING. WILL SUBMIT SMALL SCALE ECM NOTIFICATION SEPCOR.

Q. REMARKS//

BT

NNNN

NOTES: 1. Provide several telephone numbers other than quarterdeck, including an INMARSAT Number if deployed.

2. Clearance request messages and/or paragraphs for ISE, transits, OPPE are not required since it is the individual unit's responsibility to remain clear of all hot/exclusive areas.

3. All MISSILEXs in FACSFAC VACAPES OPAREAS require face-to-face brief at FACSFAC VACAPES or a predetermined location agreed upon by all participants. Review C4 IV and appendices I and J for LOI format.

4. Use correct/appropriate priority in accordance with Appendix D.

5. GUNEX altitudes provided in chapter 3, para 311.2:

6. Tow aircraft can only stream the target in the assigned area within the time period of the event. Aircraft cannot depart assigned area for tracking purposes. Aircraft restricted to streaming out and hauling in the target within the assigned time period of the GUNEX. It takes approximately 15-20 minutes for each evolution.

7. Small scale ECM notification required in accordance with CJCSM 3212.02(Series).

8. Provide at least two names as points of contact on the request. Provide at least two telephone numbers (for units not deployed). If at all possible, avoid using the quarterdeck number/duty desk.

APPENDIX G

EXAMPLE JTIDS/LINK-16 REQUEST MESSAGE

FM USS BARNACLE
TO FACSFAC VACAPES OCEANA VA
INFO CTF 80
NMCSO LANT NORFOLK VA
NAVMARSPECCN WASHINGTON DC
FACSFAC JACKSONVILLE FL
Other Participating Units as Required
BT
UNCLAS
MSGID/GENADMIN/BARNACLE//
SUBJ/JTIDS-LINK-16 SCHEDULING COORDINATION REQUEST//
REF/A/DOC/FACSFAC VACAPES/DDMMYY//
AMPN/REF A IS FACSFACVACAPESINST 3120.1(Series)//
POC/SAILOR/LT/OPS/NORFOLK, VA/TEL: (757)444-1235
/EMAIL: OPS(AT)BARNACLE.NAVY.(SMIL.)MIL//
RMKS/1. IAW REF A, REQ FOL:
A. OCE: USS BARNACLE
B. PARTICIPATING UNITS: USS BARNACL MARINE AIR CONTROL SQUADRON 24
(2) G2 AIRCRAFT
C. PURPOSE: (TESTING, MAINTENANCE, TRAINING EXERCISE, ETC.)
D. OPAREA: W-386 (Air K)
E. COMEX/FINEX: 1100Z-0130Z 04-10 MAY 10
F. NETWORK: JNL 198/29A
G. TSDF: 18.38/5.38
H. JVOICE: REQUIRED/NOT REQUIRED (2.4KBS OR 16KBS JVOICE
REQUIRED) **FAA Approval
I. POWER OUT: NOT TO EXCEED 200 WATTS
J. STOP BUZZER: OSC(SW) HAZEGRAY/COMM: (757)443-1234; DSN 443-
1234/EMAIL: HAZEGRAY(AT)BARNACLE.NAVY.MIL//
BT

NNNN

NOTE: Ensure Stop Buzzer is reachable inport and underway.

APPENDIX H

FACSFAC UAS OPERATIONS REQUEST

In support of UAS mission testing, training and in compliance ORM, submit your request via e-mail to ffaecc@navy.mil and facsfac_jaxs_skeds@navy.mil at least 14 days prior to requested operation.

Date of request:

1. Afloat Unit (Ship in which the UAS will launch/recover from):
2. Afloat Unit Point of Contact (POCs and numbers must be those that Air Traffic Control and Schedulers can reach prior to and during the event):

Email:

Pier side Phone number:

Underway Phone number:

Quarter Deck phone number:

3. UAS Command/Squadron/Proponent:
4. UAS Command/Squadron (POCs and numbers must be those that Air Traffic Control and Schedulers can reach prior to and during the event):

NMCI Email:

Deployed Email:

Pier side Phone number:

Underway Phone number:

SDO Phone number:

UAS Commander (UAC):

UAS Mission Commander (UMC):

5. Dates/times of requested UAS operations (**ZULU**):
6. Type of UAS (Model number and noun name):
7. Operating Area requested:
8. Altitudes requested:
9. UAS call sign:
10. Describe the UAS lighting configuration:
11. Does the UAS have an auto destruct feature?

12. Does the UAS have monitoring/recording capability?
13. IFF capable (Modes capable):
14. Does the UAS have the capability to reset IFF while airborne?
15. Will UAS and manned flight operations be conducted simultaneously:
16. Method of air traffic control communication:
17. What is the method of separation (radar, visual observer, chase aircraft, see/sense and avoid):
18. Contingency operations for the following:
 - Lost command/control link:
 - Lost communication:
 - Emergency:

NOTE: Divert (to an airfield outside SUA) is not an option unless a COA is in effect to divert and enter non-SUA. It is a violation of FAR's to proceed outside SUA without a COA.

19. State the following:
 - Mission supported:
 - Mission profile:
 - Mission participants:
20. Location of control station:
21. Has a frequency spectrum analysis been completed?
22. Do you have a FAA Certificate of Authorization (If yes please provide a copy):
23. Is a COA being utilized to access non-SUA?
24. Do you have an air worthiness certificate? If so identify issuing agency and date of airworthiness certificate.

NOTE: All Navy and Marine Corps UAS require an airworthiness certificate in the form of a NAVAIR flight clearance.

25. Have flight crews and afloat units received an airspace brief:
26. Officer Conducting Exercise (OCE):

APPENDIX I

**STANDARD LETTER OF INSTRUCTION (LOI) FOR SURFACE-TO-SURFACE AND
SURFACE-TO-AIR MISSILEXs CONDUCTED IN FACSFAC VACAPES OPAREAS**

P 220000Z APR 15

FM OCE

TO FACSFAC VACAPES OCEANA VA

FFAECC OCEANA VA

(ALL PARTICIPANTS OF THE EXERCISE)

INFO AS APPROPRIATE

BT

UNCLASS

MSGID/GENADMIN/originator//

SUBJ/MISSILEX LETTER OF INSTRUCTION (LOI)//

REF/A/DOC/CUSFF/23FEB11//

REF/B/DOC/FFVC/DDNOV12//

REF/C/MSG/command/DDMMYYYYYZ//

NARR/REF A IS USFF FLEET OPERATING AREAS INSTRUCTION. REF B IS

FACSFAC VACAPES MISSILEX PROCEDURES. REF C IS ORGINATORS

TARGET SERVICES AND OPAREA CLEARANCE REQUEST MESSAGE.

POC/NAME/rnk or posit/(oce or designated rep)/LOCATION/PHONE:/EMAIL://

POC/NAME/rnk or posit/(firing unit)/LOCATION/PHONE:/EMAIL://

POC/CWO3 MCTAGUE/OPSO/FFVC/OCEANA, VA/EMAIL:FFAECC@NAVY.MIL//

RMKS/1. IAW REFS A THROUGH C, THE FOLLOWING LOI IS SUBMITTED FOR

GENERAL GUIDANCE AND IS TO BE USED TO ASSIST IN PLANNING FOR

MISSILE FIRING EVENTS.

2. OCE: ORIGINATOR OF MESSAGE

3. OTC: XXXX

4. OBJECTIVES: FIRING UNIT WILL CONDUCT (TYPE) MISSILE FIRING
EXERCISES AT (WHAT TYPE) TARGET PRESENTATIONS TO VALIDATE
(WHAT).

5. REQUIREMENTS:

A. MISSILE ALLOCATION: UNIT, (#) TYPE, NALC

B. TARGET ALLOCATION: UNIT, (#) TYPE

C. PRIMARY OPAREA: R6606, W-50, W-72 AREAS 13, 1A-F, 2C-F, 3C-E

D. OPAREA SURVEILLANCE:

(1) AIRBORNE SURVEILLANCE CONTROLLED BY RANGE CONDUCTED
BY: (EXAMPLE: VAW-123 AND/OR KINGAIR)

(2) SURFACE SURVEILLANCE CONDUCTED BY: EXAMPLE: USS
SHOOTER(s)

E. WEATHER CEILING/VISIBILITY REQUIRED:

(1) SURFACE-TO-AIR. WIND MUST BE LESS THAN 50 KNOTS

RELATIVE.

(2) BQM. VFR (1,000 FEET AND 3 NM VISIBILITY). SEA STATE 2
OR LESS IS REQUIRED FOR BQM TARGET RECOVERY.

F. MISSILE HAZARD AREA: weapon specific

15 Sep 15

G. COMMUNICATIONS:

NAME	FREQ	CRYPTO	NECOS	GUARD
RANGE CONTROL	291.200	NONE	FFVC	ALL
RANGE ADMIN (CHAT)	#FFVC_RCO	NONE	FFVC	ALL
(TF CMD	xxx.xxx	xxxx	xxxx)	if needed
(AD C&R	xxx.xxx	xxxx	xxxx)	if needed
(LINK COORD	xxx.xxx	xxxx	xxxx)	if needed

H. LINK AND ID PARAMETERS.

- (1) LINK 16: PROVIDE PARAMETERS
- (2) LINK 11: PROVIDE PARAMETERS
- (3) (ID STATEMENTS OR CEC REQUIRED ITEMS)
- (4) NOTES:

6. SAFETY REQUIREMENTS:

- A. TWO-WAY VOICE COMMUNICATIONS BETWEEN OCE, FIRING UNIT AND RCO MUST BE MAINTAINED AT ALL TIMES.
- B. TWO-WAY VOICE COMMUNICATIONS BETWEEN FIRING UNIT AND ALL PARTICIPATING UNITS MUST BE MAINTAINED AT ALL TIMES.
- C. NO TARGETS SHALL BE LAUNCHED WITHOUT PERMISSION FROM FACSFAC VACAPES RCO.
- D. FFVC RANGE CONTROL OFFICER (RCO) SHALL BE THE GREEN RANGE AUTHORITY:
 - (1) WHEN MISSILE HAZARD AREA IS FREE OF ALL CONTACTS AS REPORTED BY AIRBORNE SURVEILLANCE UNIT AND FIRING UNIT SAFETY OBSERVERS.
- E. THE WORDS QUOTE GREEN RANGE UNQUOTE SHALL BE USED ONLY BY THE RCO.
- F. OTHER UNITS MAY REQUEST RANGE STATUS USING THE WORDS QUOTE INTERROGATIVE RANGE STATUS UNQUOTE. RCO WILL RESPOND WITH EITHER GREEN RANGE OR RED RANGE STATUS.
- G. ANY UNIT MAY CALL RED RANGE AT ANY TIME IF AN UNSAFE SITUATION IS OBSERVED, OR WHEN IN DOUBT THAT OPERATIONS CAN BE SAFELY CONDUCTED FOR ANY REASON.

7. SCHEDULE OF EVENTS FOR PRIMARY OR BACKUP PERIOD:

PRIMARY (DAY) NNXXXXXZ - DDXXXXXZ MMM YY

BACK-UP (DAY) NNXXXXXZ - DDXXXXXZ MMM YY

- A. TTTTZ - (TYPE) SURVEILLANCE ACFT ONSTA.
- B. TTTTZ - SURVEILLANCE ACFT CONTROLLED BY RANGE ONSTA IN (AREA), CONDUCT INITIAL RANGE CLEARANCE AND COMM CHECKS.
- C. TTTTZ - TTTTZ - CONDUCT MISSILEX SAFETY BRIEF OVER R/T NET.

8. POSITIONING:

A. OPAREA(S) EXAMPLE: 1C-F, 2C-F, 3C-E

B. FORMATION:

- (1) GUIDE:
- (2) COURSE:
- (3) SPEED:
- (4) START POINT: LAT/LONG
- (5) ADDITIONAL REMARKS:

15 Sep 15

9. PARTICIPATING UNITS AND CALLSIGNS:

UNIT	CALLSIGN
FFVC RANGE CONTROL	RANGE CONTROL
FIRING UNIT(S)	IAW JANAP 119
NAVAIR ATMO DET NORFOLK	BIG ORANGE
KINGAIR	WATCHDOG
G-1	PHOENIX (IF REQUESTED)

10. EXERCISE PROCEDURES:

A. MISSILE SETUP:

- (1) TELEMETRY: YES/NO
 - (2) WARHEAD SHOT: YES/NO
 - (3) COMMAND DESTRUCT INSTALLED: YES/NO
- MISSILE PROFILES: EXAMPLE: RIM-167
- (1) ALTITUDE: MAXIMUM EXPECTED ALTITUDE.
 - (2) TOF: XX SECONDS

B. TARGET SETUP:

- (1) JAMMER: YES/NO
 - (2) ESM: YES/NO
 - (3) MISSED DISTANCE INDICATOR (MID): YES/NO
- TARGET ASPECT: SEA SKIMMER
- (4) PROFILE:
 - SPEED RANGE: (450-500 KNOTS)
 - INITIAL POINT: (20-30NM)
 - HEADING: (RECIPROCAL OF FIRING BEARING)
 - ALTITUDE RANGE: (30-500 FT)
 - PREFERRED ALTITUDE: (30 FT)
 - TARGET OFFSET: (1000 YDS MIN)
 - ESCAPE POINT: (NO LESS THAN 2.5 NM)

C. AESOP PLAN: (CIWS CRYSTAL, SPG-62 FCS ASSIGNMENTS, etc)

D. SAFETY REQUIREMENTS AND SELF DEFENSE MITIGATIONS. (I.E.

CIWS SETTINGS TO INCLUDE WHEN AND WHICH UNIT HAS HOLD
FIRE OFF, MAGAZINE AUTHORIZATIONS, CANISTER SAFE ENABLE)

E. MISSILEX TERMINOLOGY.

GREEN RANGE. HAZARD AREA CLEARED OF ALL NON-PARTICIPATING
SURFACE AND AIR CONTACTS, ALL SYSTEMS AND PERSONNEL ARE READY
AS DETERMINED BY THE NAVY TEST CONDUCTOR AND TEST DIRECTOR.

RED RANGE. RANGE IS FOULED, OR UPON COMPLETION OF THE OP. THIS
CANCELS ANY "GREEN RANGE" PREVIOUSLY GIVEN.

RED RANGE, CONTINUE. RANGE IS CURRENTLY RED BUT EXPECT TO MEET
GREEN RANGE CONDITIONS IN THE NEAR FUTURE.

CLEAR RANGE. AIR AND SURFACE CLEAR, BUT "GREEN RANGE" HAS NOT
BEEN GIVEN.

ROGUE DRONE. TARGET IS DEEMED UNRESPONSIVE TO COMMANDS AS AN
ADVISORY CALL ONLY. THE TERM DOES NOT ENDORSE OR PRECLUDE THE
SHIP FROM TAKING SELF-DEFENSE MEASURES IN AN EMERGENCY.

COMMENCING INBOUND RUN. ADVISORY CALL TO SHIP THAT TGT IS
DESCENDING TO IP.

TARGET AT IP. TARGET IS ON SCENARIO PRESENTATION PROFILE
TARGET UP AND OUT. TARGET UNDER SNTC CONTROL, PROCEEDING TO
RECOVERY
SNTC. SYSTEM FOR NAVAL TARGET CONTROL
BQM. BOOSTER TARGET DRONE, GROUND LAUNCHED, MOBILE (TACTICAL
RECOVERABLE DRONE)
IP. INITIAL POINT
BIRD(S) AFFIRM. FIRING UNITS HAVE SOLUTION
BIRD(S) AWAY. MISSILE HAS LEFT FIRING UNIT
AIR AND SURFACE CLEAR. HAZARD AREA CLEARED OF ALL NON
-PARTICIPATING SURFACE AND AIR CONTACTS AS DETERMINED BY THE
RANGE SAFETY OFFICER
DESTRUCT. COMMAND TERMINATE MISSILE FLIGHT
MISFIRE. FIRING KEY CLOSED, MISSILE ENERGIZED, BUT DID NOT
LEAVE FIRING UNIT.
RESTRAINED FIRE. FIRING KEY CLOSED; MISSILE ENERGIZED, BOOSTER
IGNITED, MISSILE FAILS TO LEAVE FIRING UNIT.
HOLD FIRE. STOP FIRING AND DESTROY ALL MISSILES IN FLIGHT
MARK DELTA. TARGET DESTROYED
MARK INDIA. WEAPON PREDICTED INTERCEPT

11. ABORT CRITERIA:

A. HOLD FIRE CRITERIA:

- (1) RANGE FOULED BY NON-PARTICIPATING UNITS.
- (2) EQUIPMENT/SYSTEMS MALFUNCTION, INCLUDING:
 - (A) TECHNICAL PROBLEMS EXIST IN (FIRING UNITS) COMBAT SYSTEM WHICH WOULD ENDANGER A SAFE, SUCCESSFUL MISSILE FLIGHT.
 - (B) DRONE INTERCEPT OUTSIDE SAFE FIRE BEARINGS AS DETERMINED BY RCO.
 - (C) DESIRED INTERCEPT RANGE NOT ACHIEVABLE AS DETERMINED BY THE OCE OR DESIGNATED REP.
 - (D) DRONE FLIGHT ERRATIC.
 - (E) EMERGENT HAZARD TO PERSONNEL OR EQUIPMENT.
- (3) LOSS OF TRACK ON THE DRONE OR FRIENDLY AIRCRAFT/SHIPS.
- (4) NO GO CHECK FROM DRONE LAUNCH PLATFORM.

12. MISSILE COMMAND DESTRUCT CRITERIA: (IF APPROPRIATE)

- (1) FOULED RANGE.
- (2) MISSILE PAST DRONE INTERCEPT POINT (INTERCEPT TIME PLUS 10 SEC).
- (3) MISSILE FLIGHT ERRATIC (RUNAWAY) BEFORE OR AFTER INTERCEPT.
- (4) LOSS OF UPLINK/DOWNLINK.
- (5) DROP TRACK ON TARGET.
- (6) MISSILE FLIES OUTSIDE SAFE FIRING BEARINGS.
- (7) INTERCEPT MOVES OUTSIDE OF SAFE FIRING BEARINGS.
- (8) LOSS OF TACTICAL PICTURE.

13. FWD ALL QUESTIONS/CONCERNS TO OCE POC.

15 Sep 15

14. OCE PRIMARY POC: PETER MUSTANG/LT/SYSTEMS TEST OFFICER

PHONE: xxx-xxx-xxxx (CELL)

xxx-xxx-xxxx (DSN)

xxx-xxx-xxxx (POTS)

EMAIL: SIPR:

NIPR:

//

BT

APPENDIX J

STANDARD LETTER OF INSTRUCTION (LOI) FOR AIR-TO-AIR AND AIR-TO-SURFACE MISSILEXs CONDUCTED IN FACSFAC VACAPES OPAREAS

The following standard requirements for an LOI shall be in message format. All items listed shall be filled in.

P 010915Z NOV 12
FM OCE
TO FACSFAC VACAPES OCEANA VA
FFAECC OCEANA VA
(ALL PARTICIPANTS OF THE EXERCISE)
INFO AS APPROPRIATE
BT
UNCLASS
MSGID/GENADMIN/OCE//
SUBJ/MISSILEX LETTER OF INSTRUCTION (LOI)//
REF/A/DOC/CUSFF/23FEB11//
REF/B/DOC/FFVC/DDNOV12//
REF/C/MSG/COMMAND/DDMMYYYYYZ//
NARR/REF A IS USFF FLEET OPERATING AREAS INSTRUCTION. REF B IS FACSFAC VACAPES MISSILEX PROCEDURES. REF C IS ORGINATORS TARGET SERVICES AND OPAREA CLEARANCE REQUEST MESSAGE.
POC/NAME/rnk or posit/(oce or designated rep)/LOCATION/PHONE:/EMAIL://
POC/NAME/rnk or posit/(firing unit)/LOCATION/PHONE:/EMAIL://
POC/CWO3 MCTAGUE/OPSO/FFVC/OCEANA, VA/EMAIL:FFAECC@NAVY.MIL//
RMKS/1. IAW REFS A THROUGH C, THE FOLLOWING LOI IS SUBMITTED FOR GENERAL GUIDANCE AND IS TO BE USED TO ASSIST IN PLANNING FOR MISSILE FIRING EVENTS.
2. OCE: ORIGINATOR OF MSG
A. DESIGNATED RANGE SAFETY OBSERVERS (RSOS):
(1)
(2)
3. OBJECTIVES: FIRING UNIT WILL CONDUCT (TYPE) MISSILE FIRING EXERCISES AT (WHAT TYPE) TARGET PRESENTATIONS TO VALIDATE (WHAT).
4. REQUIREMENTS:
A. MISSILE ALLOCATION: (#) TYPE, NALC
B. TARGET ALLOCATION: (#) TYPE
C. PRIMARY OPAREA: EXAMPLE: 3B1
D. OPAREA SURVEILLANCE:
(1) AIR SURVEILLANCE CONDUCTED BY: EXAMPLE: VAW-123
(2) SURFACE SURVEILLANCE CONDUCTED BY: EXAMPLE: VAW-123

15 Sep 15

- E. WEATHER CEILING/VISIBILITY REQUIRED:
 (1) VMC FOR SHOT/FLYOUT. ABLE TO VISUALLY CLEAR SURFACE.
 (2) SEABORN TARGETS PER NAVAIR.
- F. MISSILE HAZARD AREA: PER APPLICABLE RSA.
- G. COMMUNICATIONS:
 FFVC: 291.2 MHZ
 FFVC: 3443.225 MHZ
- H. FFVC RCO OR RSO MUST MAINTAIN TACTICAL SITUATIONAL AWARENESS VIA:
 (1) LINK 16: PROVIDE PARAMETERS
5. SAFETY REQUIREMENTS:
- A. TWO-WAY VOICE COMMUNICATIONS BETWEEN RSO AND RCO MUST BE MAINTAINED AT ALL TIMES.
- B. TWO-WAY VOICE COMMUNICATIONS BETWEEN FIRING UNIT AND ALL PARTICIPATING UNITS MUST BE MAINTAINED AT ALL TIMES.
- C. NO TARGETS SHALL BE LAUNCHED WITHOUT PERMISSION FROM FACSFAC VACAPES RCO.
- D. FFVC RANGE CONTROL OFFICER (RCO) SHALL CALL GREEN RANGE:
 (1) WHEN MISSILE HAZARD AREA IS FREE OF ALL CONTACTS AS REPORTED BY AIRBORNE SURVEILLANCE UNIT AND FIRING UNIT SAFETY OBSERVERS.
- E. THE WORDS QUOTE GREEN RANGE UNQUOTE SHALL BE USED ONLY BY THE RCO.
- F. OTHER UNITS MAY REQUEST RANGE STATUS USING THE WORDS QUOTE SAY RANGE STATUS UNQUOTE. RCO WILL RESPOND WITH EITHER GREEN RANGE OR RED RANGE STATUS.
- G. ANY UNIT MAY CALL RED RANGE AT ANY TIME IF AN UNSAFE SITUATION IS OBSERVED, OR WHEN IN DOUBT THAT OPERATIONS CAN BE SAFELY CONDUCTED FOR ANY REASON.
6. SCHEDULE OF EVENTS FOR PRIMARY OR BACKUP PERIOD:
 PRIMARY (DAY) NNXXXXZ - DDXXXXZ MMM YY
 BACK-UP (DAY) NNXXXXZ - DDXXXXZ MMM YY
- A. TTTTZ - (TYPE) SURVEILLANCE ACFT LAUNCH
- B. TTTTZ - SURVEILLANCE ACFT ONSTA IN (AREA), CONDUCT INITIAL RANGE CLEARANCE.
- C. TTTTZ - SQUADRON ACFT LAUNCH
- D. TTTTZ - SQUADRON ACFT ONSTA IN (AREA)
7. PARTICIPATING UNITS AND CALLSIGNS:
- | | |
|-------------------------|---------------|
| UNIT | CALLSIGN |
| FFVC | RANGE CONTROL |
| FIRING UNIT(S) | SQUADRON C/S |
| SURVIELLANCE AIRCRAFT | AS FRAGGED |
| NAVAIR ATMO DET NORFOLK | BIG ORANGE |
| KINGAIR | WATCHDOG |
| G-1 | PHOENIX |
8. EXERCISE PROCEDURES:

A. MISSILE SETUP:

- (1) TELEMETRY: YES/NO
 - (2) WARHEAD SHOT: YES/NO
 - (3) COMMAND DESTRUCT INSTALLED: YES/NO
- MISSILE PROFILES: EXAMPLE: AIM-7
- (1) ALTITUDE: EXAMPLE: DEPENDENT ON INTERCEPT
 - (2) SPEED: EXAMPLE: DEPENDENT ON INTERCEPT
 - (3) TOF: EXAMPLE: 15 SECONDS

B. TARGET SETUP:

- (1) TOWED: YES/NO
- (2) AIR LAUNCHED: YES/NO
- (3) SEABORN: YES/NO
- (4) AUGMENTATION: YES/NO
 - (A) INFRARED (IR): YES/NO
 - (B) RADIO FREQUENCY (RF): YES/NO
 - (C) ESM: YES/NO

TARGET PROFILE:

- (1) SCENARIO: TALD LAUNCHED AIRCRAFT WILL SIMUALATE AN INTERCEPT AND LAUNCH TALD. WINGMAN WILL BREAK OFF TO PERFORM INTERCEPT OF TALD.
- (2) ALTITUDE: EXAMPLE: DEPENDENT ON INTERCEPT
- (3) SPEED: EXAMPLE: DEPENDENT ON INTERCEPT

9. ABORT CRITERIA:

A. HOLD FIRE CRITERIA:

- (1) RANGE FOULED BY NON-PARTICIPATING UNITS.
- (2) EQUIPMENT/SYSTEMS MALFUNCTION, INCLUDING:
 - (A) TECHNICAL PROBLEMS EXIST WHICH WOULD ENDANGER A SAFE, SUCCESSFUL MISSILE FLIGHT.
 - (B) TARGET INTERCEPT OUTSIDE SAFE FIRE BEARINGS AS DETERMINED BY RSO/RCO.
 - (C) DESIRED INTERCEPT RANGE NOT ACHIEVABLE AS DETERMINED BY THE RSO/RCO.
 - (E) EMERGENT HAZARD TO PERSONNEL OR EQUIPMENT.

10. MISSILE COMMAND DESTRUCT CRITERIA: (IF APPROPRIATE)

- (1) FOULED RANGE.
- (2) MISSILE PAST DRONE INTERCEPT POINT (INTERCEPT TIME PLUS 10 SEC).
- (3) MISSILE FLIGHT ERRATIC (RUNAWAY) BEFORE OR AFTER INTERCEPT.
- (4) DROP TRACK ON TARGET.
- (5) MISSILE FLIES OUTSIDE SAFE FIRING BEARINGS.
- (6) INTERCEPT MOVES OUTSIDE OF SAFE FIRING BEARINGS.
- (7) LOSS OF TACTICAL PICTURE.

11. FACSFAC VACAPES SAFETY REQUIREMENTS:

- (1) THE WORDS "CLEARED TO ARM"/"CLEARED TO FIRE" SHALL ONLY BE USED BY THE RANGE SAFETY OBSERVER.

15 Sep 15

(2) THE MHA MUST REMAIN IN THE WARNING/HOT AREA AT ALL TIMES.

(3) FOR AIR-TO-AIR MISSILE EXERCISES CONDUCTED IN W-72, THE ENTIRE MISSILE HAZARD PATTERN SHALL LIE TWO NAUTICAL MILES INSIDE THE ASSIGNED EXERCISE AREA, BUT WILL IN NO CASE LIE WEST OF 75°20'00"W.

12. FWD ALL QUESTIONS/CONCERNS TO FIRING UNIT POC.

13. OCE PRIMARY POC: PETER MUSTANG/LT/SYSTEMS TEST OFFICER

PHONE: (CELL)
(DSN)
(POTS)

EMAIL: SIPR:

NIPR:

PARTICIPANT PRIMARY POC: IAM A. JICO/CWO3/AIR DEFENSE OFFICER

PHONE: (CELL)
(DSN)
(POTS)

EMAIL: SIPR:

NIPR:

//

BT

#0001

NNNN

15 Sep 15

APPENDIX K**STANDARD SAFETY BRIEFING GUIDE FOR MISSILE EXERCISES**

STANDARD BRIEF GUIDE FOR (UNIT) MISSELEX TO BE CONDUCTED IN (AREA) ON DDMMYY.

MISSILEX SAFETY BRIEF WILL BE HELD ON DDMMYY (TIME) AT (LOCATION).

REQUIRED ATTENDEES:

- (1) RANGE CONTROL OFFICER
- (2) BACK/UP RANGE CONTROL OFFICER
- (3) NAVAIR ATMO DET NORFOLK (IF APPLICABLE)
- (4) TARGET LAUNCHER (BQM/TALD/TDU)
- (5) AIR SURVEILLANCE
- (6) OCE
- (7) FIRING UNIT(S) REPS
- (8) SAFETY OBSERVER (IF APPLICABLE)
- (9) TEST DIRECTOR (IF APPLICABLE)
- (10) ISIC REPRESENTATIVE (IF APPLICABLE)

FOLLOWING WILL BE DISCUSSED AND PROVIDED BY OCE UNLESS OTHERWISE NOTED:

A. OCE AND FRU ASSIGNMENT(S)

B. EXERCISE PURPOSE

C. EXERCISE OBJECTIVES

D. REQUIREMENTS

- (1) MISSILE(S)
- (2) TARGETS(S)
- (3) AREA(S)
- (4) AREA SURVEILLANCE UNIT
- (5) PRIMARY DATE/TIME SECONDARY DATE/TIME
- (6) WEATHER: CEILING/VISIBILITY
- (7) SAFETY OBSERVER
- (8) EVENT NUMBER (IF ASSIGNED)
- (9) AIRCREW ASSIGNMENTS:

UNIT AIRCREW MISSILE TGT PROFILE

(A)

(B)

(10) FREQUENCIES:

- a. PRIMARY
- b. SECONDARY
- c. HF

(11) UNIT CALL SIGNS:

E. SCHEDULE OF EVENTS (TIMELINE)

F. EXERCISE PROCEDURES

G. MISSILE/TARGET SET-UP/ASPECT

(1) MISSILE HAZARD PATTERNS:

- a. DOWN RANGE
- b. BACK RANGE
- c. TOTAL CROSS RANGE

(2) TARGET HAZARD PATTERN:

- a. DOWN RANGE
- b. BACK RANGE
- c. TOTAL CROSS RANGE

H. MISSILE FIRING PROCEDURES

I. ABORT CRITERIA

J. HUNG MISSILE (AIR-TO-AIR)/MISFIRE (SURFACE-TO-SURFACE) PROCEDURES.

K. SHOOTER SAFETY PRECAUTIONS.

L. MISSILEX TERMINOLOGY.

M. MISCELLANEOUS (AS APPROPRIATE).

N. FACSFAC VACAPES SAFETY REQUIREMENTS. (BY RCO)

- (1) TWO-WAY COMMS
- (2) GREEN RANGE/RED RANGE/INT RANGE STATUS
- (3) SURFACE/AIR SURVEILLANCE
- (4) TARGET LAUNCH PROCEDURES (AS APPROPRIATE)
- (5) MISSILE/TARGET HAZARD PATTERNS
- (6) SAFE LAUNCH PROCEDURES (AS APPROPRIATE)
- (7) W-72 LAUNCH RESTRICTIONS (AIR-TO-AIR)

O. SUMMARIZE CHANGES TO LOI (BY RCO) (IF APPLICABLE)

APPENDIX L

**MEMORANDUM OF AGREEMENT (MOA) BETWEEN COMMANDING OFFICER,
FACSFAC VACAPES AND DESIGNATED RANGE CONTROL OFFICER;
REQUIREMENTS AND DESIGNATION LETTER**

Subj: MEMORANDUM OF AGREEMENT BETWEEN COMMANDING OFFICER,
FACSFAC VACAPES AND DESIGNATED RANGE CONTROL OFFICER
FOR ASSUMPTION OF RANGE-CONTROL DUTIES AND
RESPONSIBILITIES

Ref: (a) COMUSFLTFORCOMINST 3120.26 (Series)
(b) COMNAVAIRLANTINST 5450.61 (Series)
(c) FACSFACVACAPESINST 3120.1 (Series)

1. Purpose. To delineate requirements necessary to assume Range Control Officer (RCO) duties and responsibilities.

2. Discussion. In order to provide the requisite safety measures for Missile Exercises (MISSILE-EX) and not waste valuable assets, the assignment of an RCO other than FACSFAC VACAPES may be appropriate. Duties and responsibilities for RCO's are identified in references (a) through (c). Additional requirements are provided in this memorandum.

3. Requirements. Assignment and designation of an RCO shall be approved only after all requirements of this memorandum have been met. The RCO may be designated via naval message or by signing this MOA. The RCO will certify compliance with the following items:

- a. Is qualified and designated as Mission Commander (for E-2s) or designated as OCE (for surface ships).
- b. Acknowledges RCO responsibilities stated in references (a) through (c).
- c. Has personally attended the PRE-MISSILEX briefings.
- d. Acknowledges all range safety precautions cited in reference (c), and OCE requirements identified in the missile LOI.
- e. Acknowledges missile and target profiles. Has developed Missile and Target Hazard Area envelopes in accordance with reference (c).
- f. Acknowledges weather requirements/minimums necessary to conduct the MISSILEX.

15 Sep 15

4. Action. Commanding Officer, FACSFAC VACAPES and the Range Control Officer agree to transfer/assume RCO duties and responsibilities when necessary to safely complete the MISSILEX. The RCO thoroughly understands and will adhere to all safety precautions promulgated by references (a) through (c) and LOI directives published by OCE. The RCO, by signing this memorandum, certifies compliance with all requirements listed.

MISSILEX dates are:

Primary:

Back-up:

(Signature)
RCO

(Signature)
CO, FACSFAC VACAPES

(Print Name, Rank, SSN)
Range Control Officer

Special Conditions:

RCO Initials

CO, FACSFAC VACAPES Initials

APPENDIX M

**FLEET AREA CONTROL AND SURVEILLANCE FACILITY, VIRGINIA CAPES
AND
UNIT or ORGANIZATION**

LETTER OF AGREEMENT

EFFECTIVE: XX XXX XXXX

Subj: DRONE EXERCISE INTER-FACILITY COORDINATION PROCEDURES

1. Purpose: This memorandum defines the procedures for drone exercises operating from the Target Control Tower at Dam Neck and not involving a missile shoot.
2. Cancellation. None.
3. Scope: The coordination procedures outlined herein are applicable to Fleet Area Control and Surveillance Facility (FACSFAC VACAPES), hereinafter called GIANTKILLER, and Surface Combat Systems Center, Wallops Island, hereinafter called SCSC Wallops.
4. Responsibilities: SCSC Wallops shall comply with the procedures set forth herein.
5. Procedures:
 - a. SCSC Wallops shall:
 - (1) Provide a “30 minutes to launch” and “15 minutes to launch” call to GIANTKILLER via land line, commercial 757-433-1230/1231.
 - (2) Provide a “5 minutes to launch” and “2 minutes to launch” call to GIANTKILLER via land line, commercial 757-433-1230/1231. When the 5 minute call is made, SCSC Wallops shall remain on the land line for the 2 minute and airborne calls.
 - (3) Advise GIANTKILLER when drone is airborne, in the chute or out of control.
 - (4) Restrict all airborne assets under their control to 2,000 feet and below during drone recovery operations.
 - (5) Provide GIANTKILLER 15 minutes’ notice prior to RTB for any drone operations/recovery west of 075-30-00 west via land line, commercial 757-433-1230/1231.
 - (6) Maintain drone altitude at or above 1000 feet except for drone recovery. Range clearance assets must be employed prior to any drone operations below 1000 feet.

b. GIANTKILLER shall:

- (1) Upon receipt of 30 minute notification, recall R-6606, W-50 and Area 13 from Naval Air Station Oceana RATCF.
- (2) Upon receipt of 15 minute notification, ensure airspace coordination complete.
- (3) Upon receipt of 5 minute notification, ensure airspace is clear of known non-participants.
- (4) Coordinate airspace recall and advise SCSC WALLOPS if any hold status is in effect.
- (5) Upon receipt of drone out of control, transmit a safety alert on guard frequencies for aircraft in the affected area.
- (6) Provide radar flight following and airspace advisories as necessary for safe operations to SCSC Wallops via land line, commercial 757-433-1230/1231.
- (7) Release R-6606, W-50, and Subarea 13 of W-72 to Oceana RATCF when the drone is east of 075-30-00 West.
- (8) Immediately recall R-6606, W-50, and Subarea 13 of W-72 for any drone transit/recovery west of 075-30-00 West.

Commanding Officer
FACSFAC VACAPES

Commanding Officer
SCSC WALLOPS ISLAND

APPENDIX N

TARGETS AVAIABLE FOR MISSILE EXERCISES

Surface to Surface, Air to Surface

High-Speed Maneuverable Seaborne Target (HSMST)
Low Cost Tow Target (LCTT)
High-speed Anti-Radiation Missile (HARM) barge
Floating at Sea Target (FAST)
Low Cost Modular Target (LCMT)
Inflatable Banana
Fast Attack Craft Target (FACT)
Polyethylene Tow Target (PETT)

Air to Air, Surface to Air

BQM-74
BQM-34 (TBD)
LUU-2
Tactical Air Launched Decoy (TALD)
Improved Tactical Air Launched Decoy (ITALD)

APPENDIX O

FACSFAC RANGE COORDINATES AND FIGURES

A. Restricted Areas.

1. **R-5301 Harvey Point (Surface to 14,000 feet MSL)**

36°04'56"N 076°16'47"W TO 36°04'23"N 076°20'59"W TO
36°06'58"N 076°20'58"W; thence clockwise via a 3 nautical mile arc centered at
36°04'01"N 076°20'19"W TO 36°04'56"N 076°16'47"W



2. **R-5302A Albermarle, NC (Surface to 14,000 feet MSL)**
36°01'21"N 076°14'29"W TO 36°02'19"N 076°07'14"W TO
36°00'01"N 076°07'14"W TO 36°00'01"N 076°14'29"W TO
36°01'21"N 076°14'29"W

3. **R-5302B Albermarle, NC
(100 feet AGL to 14,000 feet MSL)**
36°04'59"N 076°16'29"W TO 36°04'01"N 076°05'59"W TO
36°00'01"N 076°05'59"W TO 36°00'01"N 076°12'59"W TO
36°00'04"N 076°24'17"W thence clockwise via a 4NM
arc centered at 36°02'01"N 076°19'59"W TO
36°03'56"N 076°24'18"W TO 36°04'59"N 076°16'29"W

4. **R-5302C Albermarle, NC
(100 feet AGL to 3,000 feet MSL)**
36°00'01"N 076°12'59"W TO 35°58'50"N 076°16'58"W
thence clockwise via a 4 nautical mile arc centered at 36°02'01"N 076°19'59"W TO
36°00'04"N 076°24'17"W TO 36°00'01"N 076°12'59"W



5. R-5313A Stumpy Point (Surface to 18,000 feet MSL)

A circular area with a 3-mile radius centered at 35°32'49"N 075°41'25"W

**6. R-5313B Stumpy Point
(100 feet AGL to 13,000 feet MSL)**

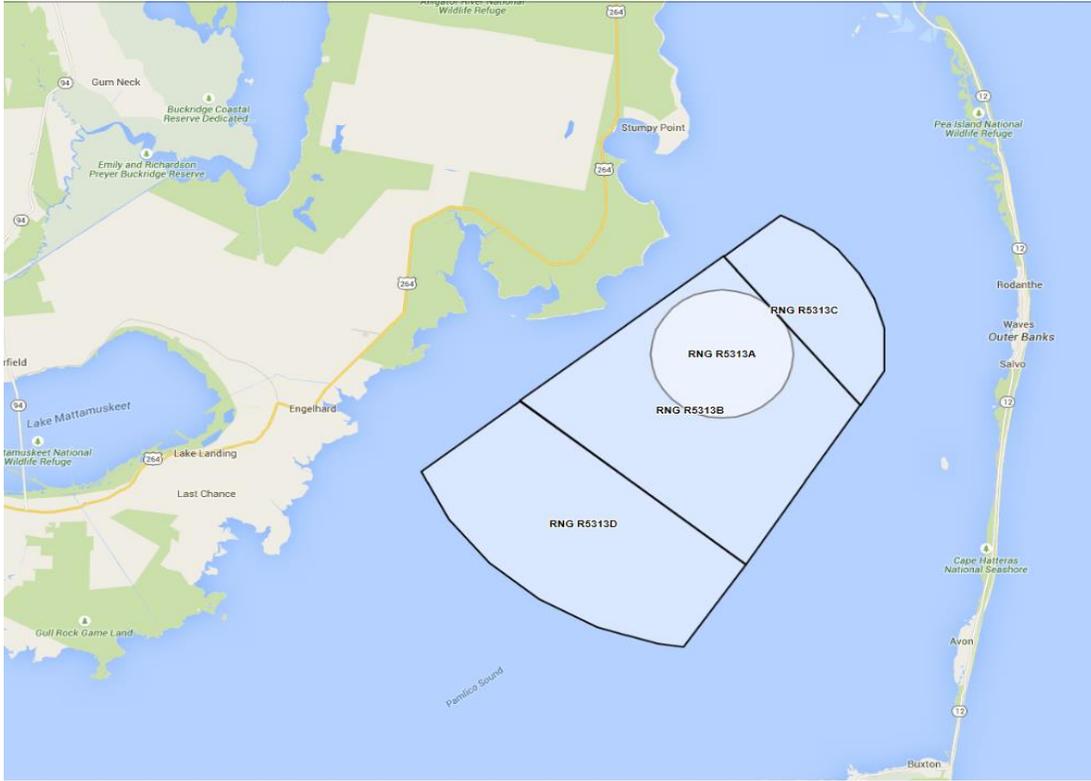
35°36'47"N 075°41'21"W TO 35°30'45"N 075°35'13"W TO
35°24'15"N 075°40'22"W TO 35°30'55"N 075°50'29"W TO
35°36'47"N 075°41'21"W TO

**7. R-5313C Stumpy Point
(100 feet AGL to 13,000 feet MSL)**

35°32'09"N 075°34'06"W TO 35°30'45"N 075°35'13"W TO
35°36'47"N 075°41'21"W TO 35°38'25"N 075°38'47"W
thence clockwise along a 6 nautical mile arc centered at lat. 35°32'49"N 075°41'25"W TO
35°32'09"N 075°34'06"W

**8. R-5313D Stumpy Point
(500 feet AGL to 13,000 feet MSL)**

35°20'52"N 075°43'07"W TO 35°24'15"N 075°40'22"W TO
35°30'55"N 075°50'29"W TO 35°28'02"N 075°54'54"W
thence counterclockwise along a 12 nautical mile arc
centered at lat. 35°32'49"N 075°41'25"W TO 35°20'52"N 075°43'07"W



9. R-5314D Dare County (Surface to FL 205)

35°47'51"N 075°48'49"W TO 35°42'36"N 075°49'49"W TO
35°44'10"N 075°59'41"W TO 35°47'01"N 075°58'59"W TO
35°46'08"N 075°52'35"W TO 35°48'01"N 075°51'59"W TO
35°47'51"N 075°48'49"W

10. R-5314E Dare County

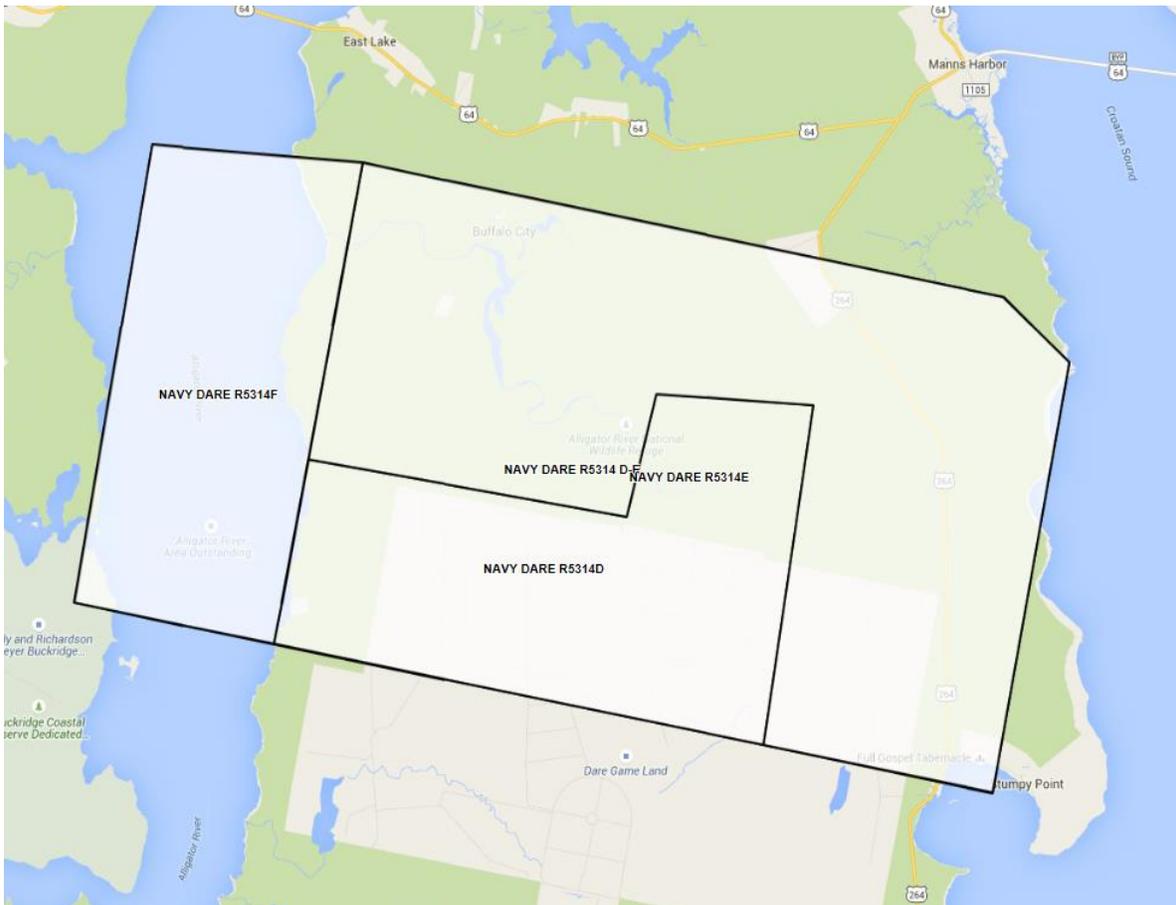
(500 feet above the surface to FL 205)

35°48'31"N 075°43'39"W TO 35°41'52"N 075°45'11"W TO
35°42'36"N 075°49'49"W TO 35°47'51"N 075°48'49"W TO
35°48'01"N 075°51'59"W TO 35°46'08"N 075°52'35"W TO
35°47'01"N 075°58'59"W TO 35°51'36"N 075°57'54"W TO
35°49'31"N 075°44'59"W TO 35°48'31"N 075°43'39"W

11. R-5314F Dare County

(200 feet above the surface to 15,000 feet MSL)

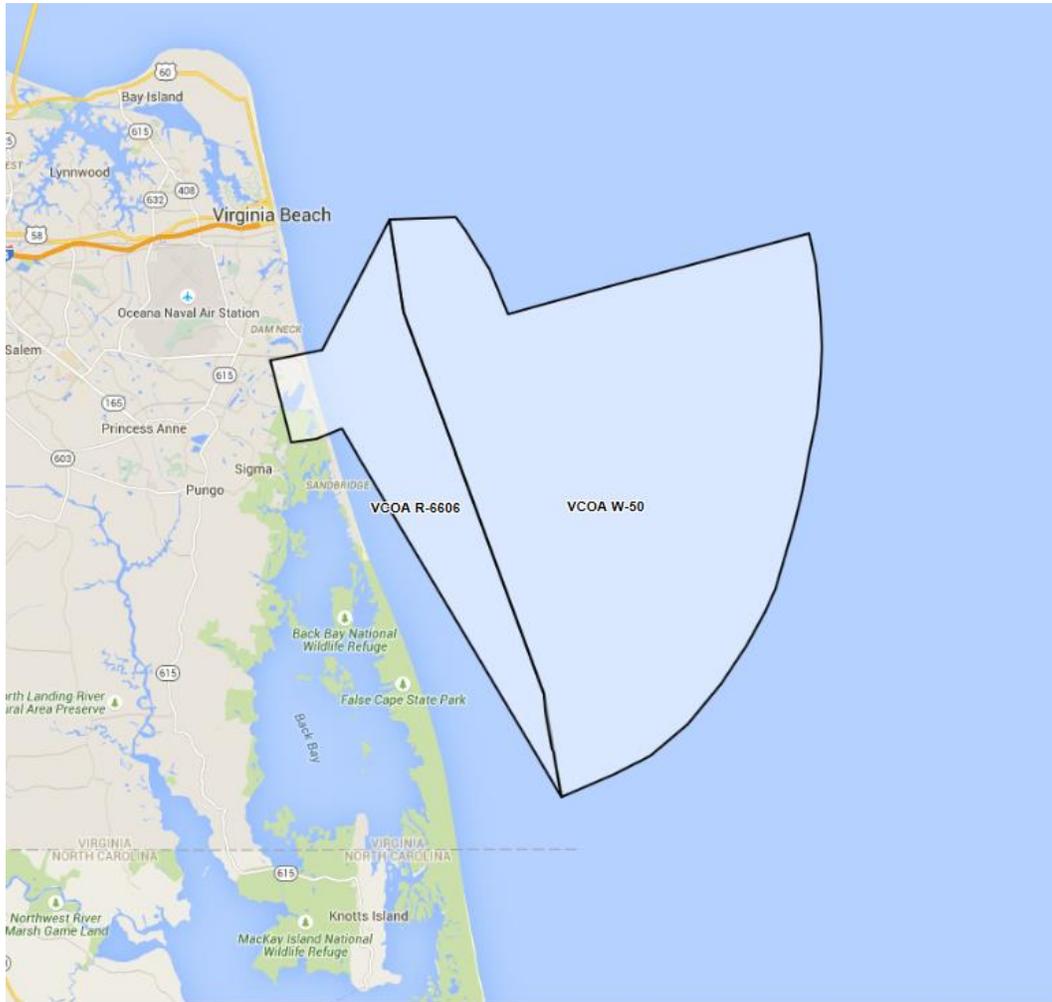
35°51'36"N 075°57'54"W TO 35°44'10"N 075°59'41"W TO
35°44'48"N 076°03'44"W TO 35°51'53"N 076°02'08"W TO
35°51'36"N 075°57'54"W



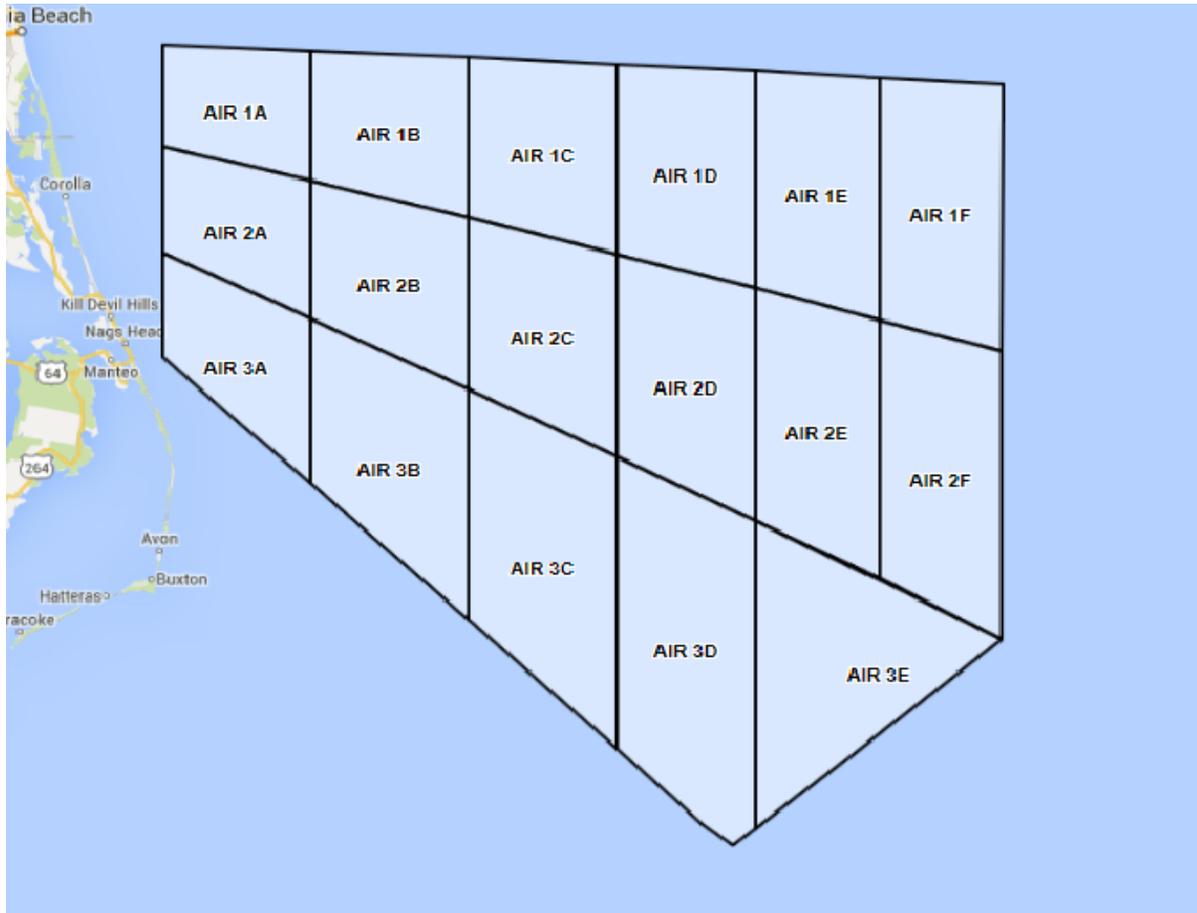
12. R-6606 Dam Neck

(Surface to and including 51,000 feet MSL)

36°51'01"N 075°54'29"W thence 3 nautical miles from and parallel
to the shoreline to 36°34'34"N 075°48'23"W TO
36°45'04"N 075°56'11"W TO 36°44'46"N 075°57'04"W TO
36°44'40"N 075°57'59"W TO 36°47'01"N 075°58'44"W TO
36°47'19"N 075°56'53"W TO 36°51'01"N 075°54'29"W



B. W-72 WAD Air Grid:



W-72 (1A) (CONCURRENT USE ONLY)
36°49'01"N/075°30'00"W TO
36°48'01"N/075°00'00"W TO
36°25'33"N/075°00'00"W TO
36°31'30"N/075°30'00"W TO
36°49'01"N/075°30'00"W

W-72 (1B) (CONCURRENT USE ONLY)
36°48'01"N/075°00'00"W TO
36°46'55"N/074°28'00"W TO
36°19'03"N/074°28'00"W TO
36°25'33"N/075°00'00"W TO
36°48'01"N/075°00'00"W

W-72 (1C) SURFACE TO UNLIMITED
36°46'49"N/074°28'00"W TO
36°45'43"N/073°58'00"W TO
36°12'48"N/073°58'00"W TO
36°19'03"N/074°28'00"W TO
36°46'49"N/074°28'00"W

W-72 (1D) SURFACE TO UNLIMITED
36°45'43"N/073°58'00"W TO
36°44'29"N/073°30'00"W TO
36°06'51"N/073°30'00"W TO
36°12'48"N/073°58'00"W TO
36°45'43"N/073°58'00"W

W-72 (1E) SURFACE TO UNLIMITED
36°44'29"N/073°30'00"W TO
36°43'17"N/073°05'00"W TO
36°01'25"N/073°05'00"W TO
36°06'51"N/073°30'00"W TO
36°44'29"N/073°30'00"W

W-72 (1F) SURFACE TO UNLIMITED
36°43'17"N/073°05'00"W TO
36°42'09"N/072°39'58"W TO
35°55'54"N/072°40'00"W TO
36°01'25"N/073°05'00"W TO
36°43'17"N/073°05'00"W

**W-72 (2A) 5,000 MSL TO UNLIMITED
(NORTH TCTS)**

36°31'30"N/075°30'00"W TO
36°25'33"N/075°00'00"W TO
36°01'37"N/075°00'00"W TO
36°13'00"N/075°30'00"W TO
36°31'30"N/075°30'00"W

W-72 (2C) SURFACE TO UNLIMITED

36°19'03"N/074°28'00"W TO
36°12'48"N/073°58'00"W TO
35°37'30"N/073°58'00"W TO
35°49'16"N/074°28'00"W TO
36°19'03"N/074°28'00"W

W-72 (2E) SURFACE TO UNLIMITED

36°06'51"N/073°30'00"W TO
36°01'25"N/073°05'00"W TO
35°16'14"N/073°05'00"W TO
35°26'20"N/073°30'00"W TO
36°06'51"N/073°30'00"W

**W-72 (3A) 5,000MSL TO UNLIMITED
(SOUTH TCTCS)**

36°13'00"N/075°30'00"W TO
36°01'37"N/075°00'00"W TO
35°32'56"N/075°00'00"W TO
35°43'25"N/075°14'15"W TO
35°54'51"N/075°30'00"W TO
36°13'00"N/075°30'00"W

W-72 (3C) SURFACE TO UNLIMITED

35°26'20"N/073°30'00"W TO
34°32'17"N/073°30'00"W TO
34°29'17"N/073°34'23"W TO
34°33'10"N/073°40'50"W TO
34°46'21"N/073°58'00"W TO
35°37'30"N/073°58'00"W

W-72 (3E) SURFACE TO UNLIMITED

35°26'20"N/073°30'00"W TO
36°32'30"N/075°30'00"W TO
34°32'17"N/073°30'00"W TO
35°26'20"N/073°30'00"W

SOUTH CORRIDOR

**W-72 (2B) 5,000 MSL TO UNLIMITED
(NORTH TCTS)**

36°25'33"N/075°00'00"W TO
36°19'03"N/074°28'00"W TO
35°49'16"N/074°28'00"W TO
36°01'37"N/075°00'00"W TO
36°25'33"N/075°00'00"W

W-72 (2D) SURFACE TO UNLIMITED

36°12'48"N/073°58'00"W TO
36°06'51"N/073°30'00"W TO
35°26'20"N/073°30'00"W TO
35°37'30"N/073°58'00"W TO
36°12'48"N/073°58'00"W

W-72 (2F) SURFACE TO UNLIMITED

36°01'25"N/073°05'00"W TO
35°55'54"N/072°40'00"W TO
35°05'35"N/072°40'00"W TO
35°16'14"N/073°05'00"W TO
36°01'25"N/073°05'00"W

**W-72 (3B) 5,000MSL TO UNLIMITED
(SOUTH TCTS)**

36°01'37"N/075°00'00"W TO
35°49'16"N/074°28'00"W TO
35°09'07"N/074°28'00"W TO
35°32'56"N/075°00'00"W TO
36°01'37"N/075°00'00"W

W-72 (3D) SURFACE TO UNLIMITED

35°37'30"N/073°58'00"W TO
35°49'16"N/074°28'00"W TO
35°37'30"N/073°58'00"W TO
34°46'21"N/073°58'00"W TO
35°09'07"N/074°28'00"W TO
35°49'16"N/074°28'00"W

NORTH CORRIDOR

(CONCURRENT USE ONLY)

36°14'00"N/075°30'00"W TO
36°02'37"N/075°00'00"W TO
35°51'03"N/074°30'00"W TO
35°49'29"N/074°26'00"W TO
35°38'30"N/073°58'00"W TO
36°30'30"N/075°30'00"W TO
35°27'20"N/073°30'00"W TO
35°26'20"N/073°30'00"W TO
35°25'20"N/073°30'00"W TO
35°36'30"N/073°58'00"W TO
35°47'29"N/074°26'00"W TO
35°49'03"N/074°30'00"W TO
36°00'37"N/075°00'00"W TO
36°12'00"N/075°30'00"W TO
36°14'00"N/075°30'00"W

**CENTRAL CORRIDOR
(CONCURRENT USE ONLY)**

36°46'49"N/074°26'00"W TO
36°19'38"N/074°26'00"W TO
36°17'38"N/074°26'00"W TO
35°49'29"N/074°26'00"W TO
35°47'29"N/074°26'00"W TO
35°07'36"N/074°26'00"W TO
35°10'36"N/074°30'00"W TO
35°49'03"N/074°30'00"W TO
35°51'03"N/074°30'00"W TO
36°18'27"N/074°30'00"W TO
36°20'27"N/074°30'00"W TO
36°46'58"N/074°29'59"W TO
36°46'49"N/074°26'00"W

(CONCURRENT USE ONLY)

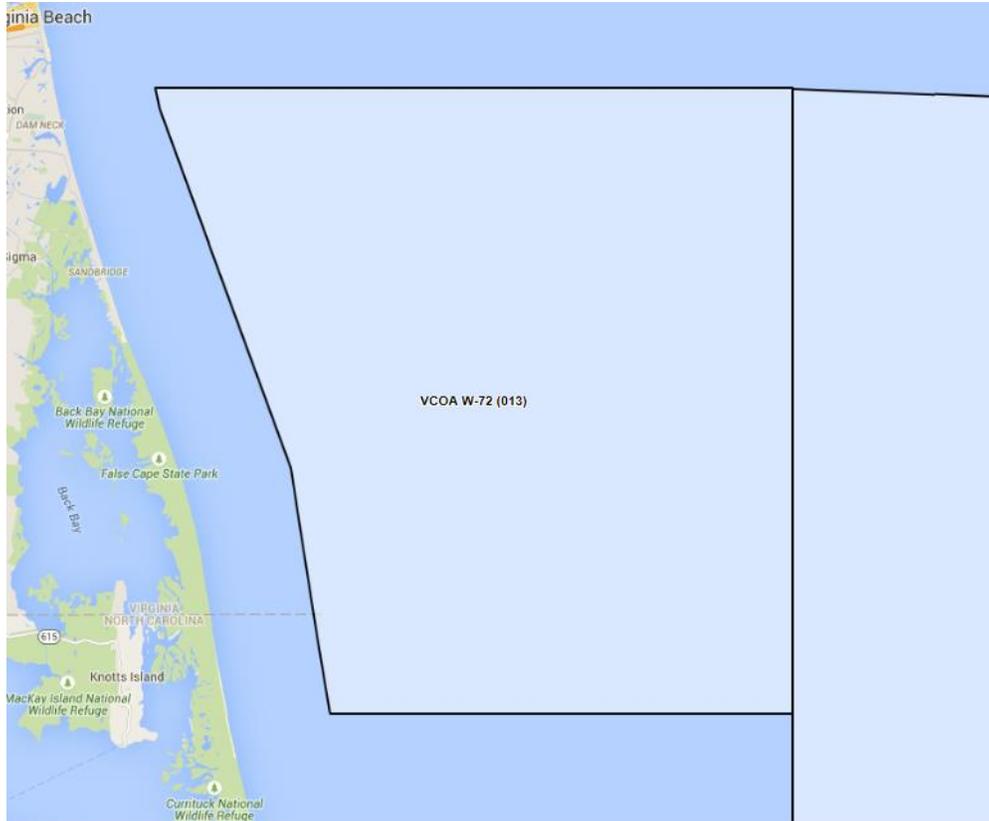
35°05'35"N/072°40'00"W TO
36°26'33"N/075°00'00"W TO
36°20'27"N/074°30'00"W TO
36°19'38"N/074°26'00"W TO
36°13'48"N/073°58'00"W TO
36°07'51"N/073°30'00"W TO
36°06'51"N/073°30'00"W TO
36°05'51"N/073°30'00"W TO
36°11'48"N/073°58'00"W TO
36°17'38"N/074°26'00"W TO
36°18'27"N/074°30'00"W TO
36°24'33"N/075°00'00"W TO
36°32'30"N/075°30'00"W

W-72 INGRESS/EGRESS POINTS

SCUPE 36°48'28"N/075°29'5"W
KNOTS 36°31'34"N/075°30'42"W
BIGEY 36°15'21"N/075°31'41"W
MQI 35°54'55"N/075°41'42"W

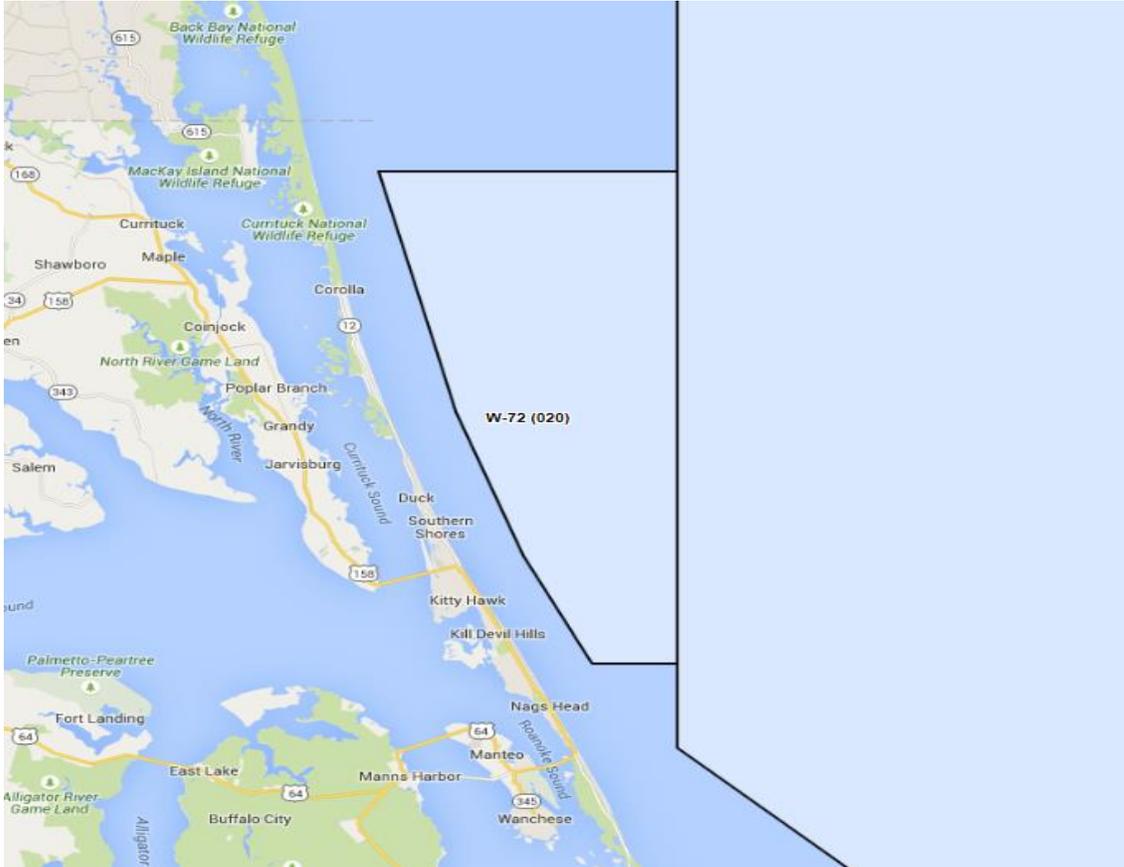
W-72 (13) (SURFACE TO 1,999ft/FL600 UNLIMITED) is defined as that area east and south of W-50 bounded by the following points:

- 36°49'00"N 075°40'00"W TO
- 36°49'00"N 075°30'00"W TO
- 36°30'00"N 075°30'00"W TO
- 36°30'00"N 075°47'00"W TO
- 36°35'00"N 075°48'00"W TO
- 36°49'00"N 075°40'00"W



W-72 (20) (SURFACE TO 1,999FT/FL600 UNLIMITED)

36°30'00"N 075°47'50"W TO 36°30'00"N 075°30'00"W TO
35°55'00"N 075°30'00"W TO 3NM from and parallel to shoreline TO
36°30'00"N 075°47'50"W



C. Warning Area 110 (W-110). W-110 overlies portions of surface areas 4A-4D, Appendix O. This area is subject to 15-minute deactivation by FACSFAC VACAPES to facilitate airway traffic FL230 and below traveling on Atlantic Route 8.

SURFACE TO FL230 INCLUSIVE.

35°43'25"N/075°14'15"W TO 34°33'10"N/073°40'50"W TO
34°29'17"N/073°34'23"W TO 34°14'01"N/073°56'58"W
THEN 12NM FROM AND PARALLEL TO THE SHORELINE TO
35°43'25"N/075°14'15"W



W-110 Surface Grids.

4A

38°36'50"N/074°59'49"W TO
38°45'00"N/074°52'59"W TO
38°45'00"N/074°36'59"W TO
38°39'15"N/074°43'59"W TO
38°25'30"N/074°58'59"W
THEN 3NM FROM AND PARALLEL
TO THE SHORELINE TO
38°36'50"N/074°59'49"W

4B

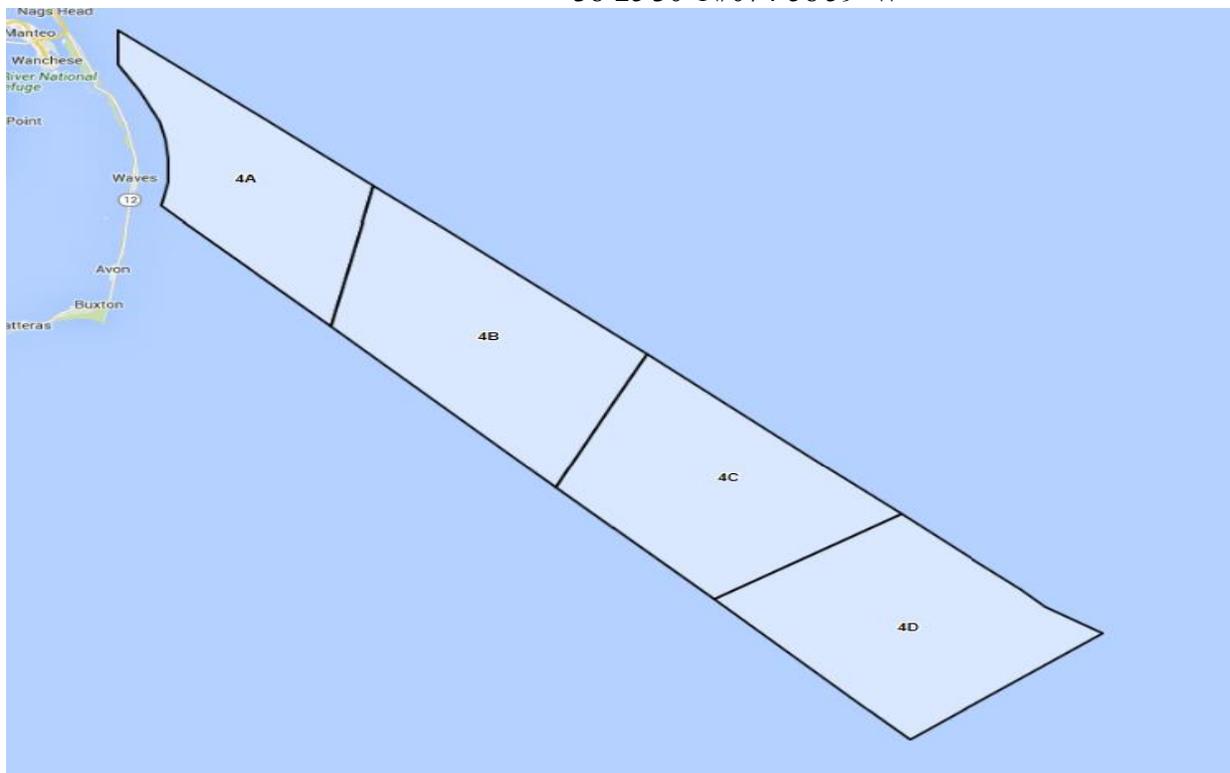
38°25'30"N/074°58'59"W TO
38°39'15"N/074°43'59"W TO
38°45'00"N/074°36'59"W TO
38°45'00"N/074°29'59"W TO
38°15'00"N/074°30'00"W TO
38°15'00"N/075°03'30"W
THEN 3NM FROM AND PARALLEL
TO THE SHORELINE TO
38°25'30"N/074°58'59"W

4C

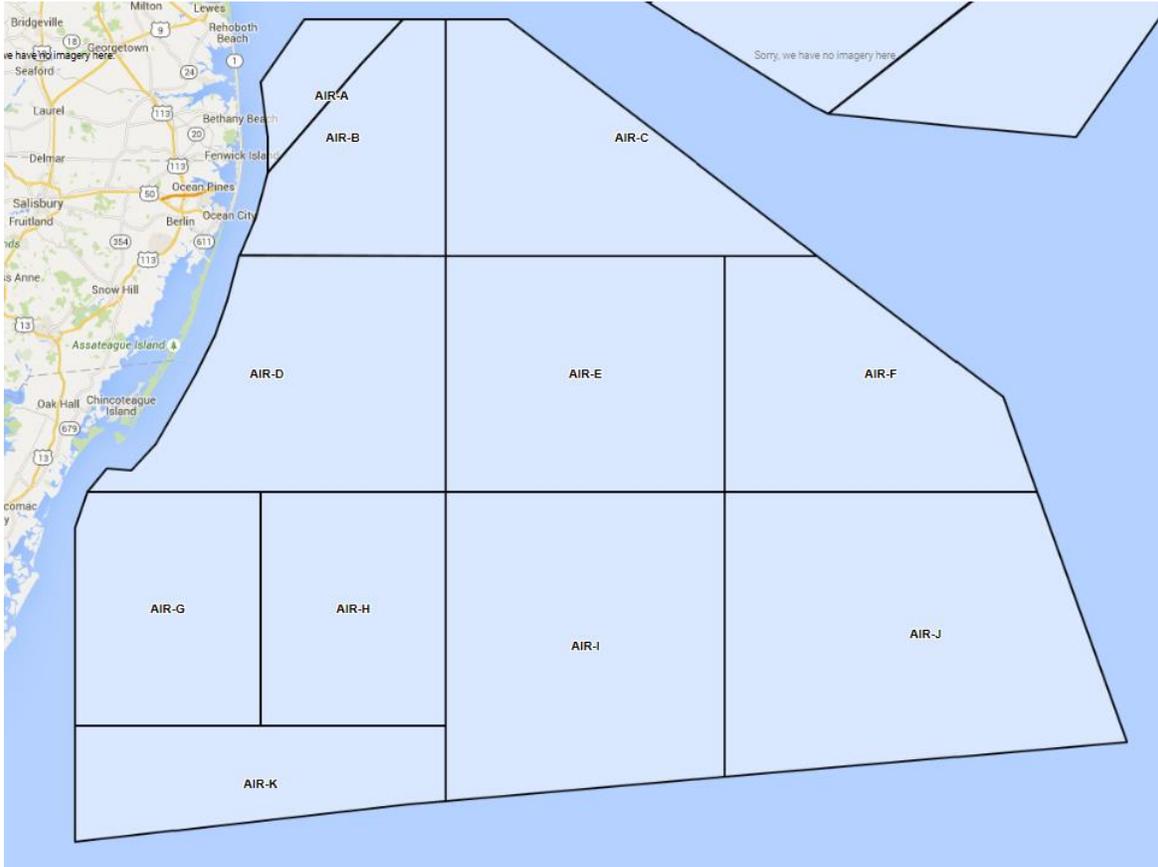
38°36'50"N/074°59'49"W TO
38°45'00"N/074°52'59"W TO
38°45'00"N/074°36'59"W TO
38°39'15"N/074°43'59"W TO
38°25'30"N/074°58'59"W
3NM FROM AND PARALLEL TO
THE SHORELINE TO
38°36'50"N/074°59'49"W

4D

38°25'30"N/074°58'59"W TO
38°39'15"N/074°43'59"W TO
38°45'00"N/074°36'59"W TO
38°45'00"N/074°29'59"W TO
THEN 38°15'00"N/074°30'00"W TO
38°15'00"N/075°03'30"W
THEN 3NM FROM AND PARALLEL
TO THE SHORELINE TO
38°25'30"N/074°58'59"W



D. W-386 SOA Air Grid:



AIR-A SURFACE TO FL230

38°36'50"N/074°59'49"W TO
38°45'00"N/074°52'59"W TO
38°45'00"N/074°36'59"W TO
38°39'15"N/074°43'59"W TO
38°25'30"N/074°58'59"W
THEN 3NM FROM AND PARALLEL TO
THE SHORELINE TO
38°36'50"N/074°59'49"W

AIR-B SURFACE TO UNLIMITED

38°25'30"N/074°58'59"W TO
38°39'15"N/074°43'59"W TO
38°45'00"N/074°36'59"W TO
38°45'00"N/074°29'59"W TO
38°15'00"N/074°30'00"W TO
38°15'00"N/075°03'30"W
THEN 3NM FROM AND PARALLEL TO
THE SHORELINE TO
38°25'30"N/074°58'59"W

AIR-C SURFACE TO UNLIMITED

38°45'00"N/074°20'00"W TO
38°15'00"N/073°30'00"W TO
38°15'00"N/073°45'00"W TO
38°15'00"N/074°30'00"W TO
38°45'00"N/074°30'00"W TO
38°45'00"N/074°20'00"W

AIR-D SURFACE TO UNLIMITED

38°15'00"N/075°03'30"W TO
38°15'00"N/074°30'00"W TO
37°45'00"N/074°30'00"W TO
37°45'00"N/075°00'00"W TO
37°45'00"N/075°28'30"W
THEN 3NM FROM AND PARALELL TO
THE SHORELINE TO
38°15'00"N/075°03'30"W

15 Sep 15

AIR-E SURFACE TO UNLIMITED

38°15'00"N/073°45'00"W TO
 37°45'00"N/073°45'00"W TO
 37°45'00"N/074°30'00"W TO
 38°15'00"N/074°30'00"W TO
 38°15'00"N/073°45'00"W

AIR-G SURFACE TO UNLIMITED

37°45'00"N/075°00'00"W TO
 37°15'00"N/075°00'00"W TO
 37°15'00"N/075°30'00"W TO
 37°41'28"N/075°30'00"W TO
 37°45'00"N/075°28'30"W
 THEN 3NM FROM AND PARALLEL TO
 THE SHORELINE TO
 37°45'00"N/075°00'00"W

AIR-I SURFACE TO UNLIMITED

37°45'00"N/073°45'00"W TO
 37°08'57"N/073°45'00"W TO
 37°05'19"N/074°30'00"W TO
 37°45'00"N/074°30'00"W TO
 37°45'00"N/073°45'00"W

**AIR-K SURFACE TO UNLIMITED
(GUN EXERCISE AREA)**

37°15'00"N/074°30'00"W TO
 37°05'19"N/074°30'00"W TO
 37°00'00"N/075°30'00"W TO
 37°15'00"N/075°30'00"W TO
 37°15'00"N/075°00'00"W TO
 37°15'00"N/074°30'00"W

**LANGLEY CORRIDOR
(CONCURRENT USE ONLY)**

37°45'00"N/075°00'00"W
 THEN ALONG THE COASTAL ADIZ TO
 38°16'30"N/074°30'00"W TO 37°15'00"N/075°20'00"W TO
 37°15'00"N/075°12'30"W TO 37°15'00"N/075°30'00"W TO
 37°15'00"N/075°20'00"W TO 37°41'28"N/075°30'00"W THEN
 38°27'43"N/074°29'59"W TO
 3NM FROM AND PARALLEL TO THE SHORELINE TO
 38°16'30"N/074°30'00"W
 37°45'00"N/075°28'30"W TO
 37°45'00"N/075°00'00"W

AIR-F SURFACE TO UNLIMITED

38°15'00"N/073°30'00"W TO
 37°57'00"N/073°00'30"W TO
 37°45'00"N/072°54'49"W TO
 37°45'00"N/073°39'00"W TO
 37°45'00"N/073°45'00"W TO
 38°15'00"N/073°45'00"W TO
 38°15'00"N/073°30'00"W

AIR-H SURFACE TO UNLIMITED

37°45'00"N/074°30'00"W TO
 37°15'04"N/074°30'00"W TO
 37°15'00"N/075°00'00"W TO
 37°45'00"N/075°00'00"W TO
 37°45'00"N/074°30'00"W

AIR-J SURFACE TO UNLIMITED

37°45'00"N/072°54'49"W TO
 37°13'39"N/072°40'00"W TO
 37°09'27"N/073°39'00"W TO
 37°45'00"N/073°39'00"W TO
 37°45'00"N/072°54'49"W

**VICTOR CORRIDOR
(CONCURRENT USE ONLY)**

37°45'00"N/073°39'00"W TO
 37°09'27"N/073°39'00"W TO
 37°08'57"N/073°45'00"W TO
 37°45'00"N/073°45'00"W TO
 37°45'00"N/073°39'00"W

TEST TRACK A

38°44'00"N 074°18'15"W
THEN ALONG THE COASTAL ADIZ
38°13'00"N 074°40'00"W
38°18'45"N 075°01'15"W
THEN 3NM FROM AND PARALLEL TO
THE SHORELINE TO
38°25'30"N 074°59'00"W
38°45'00"N 074°37'00"W
38°44'00"N 074°18'15"W

TEST TRACK B

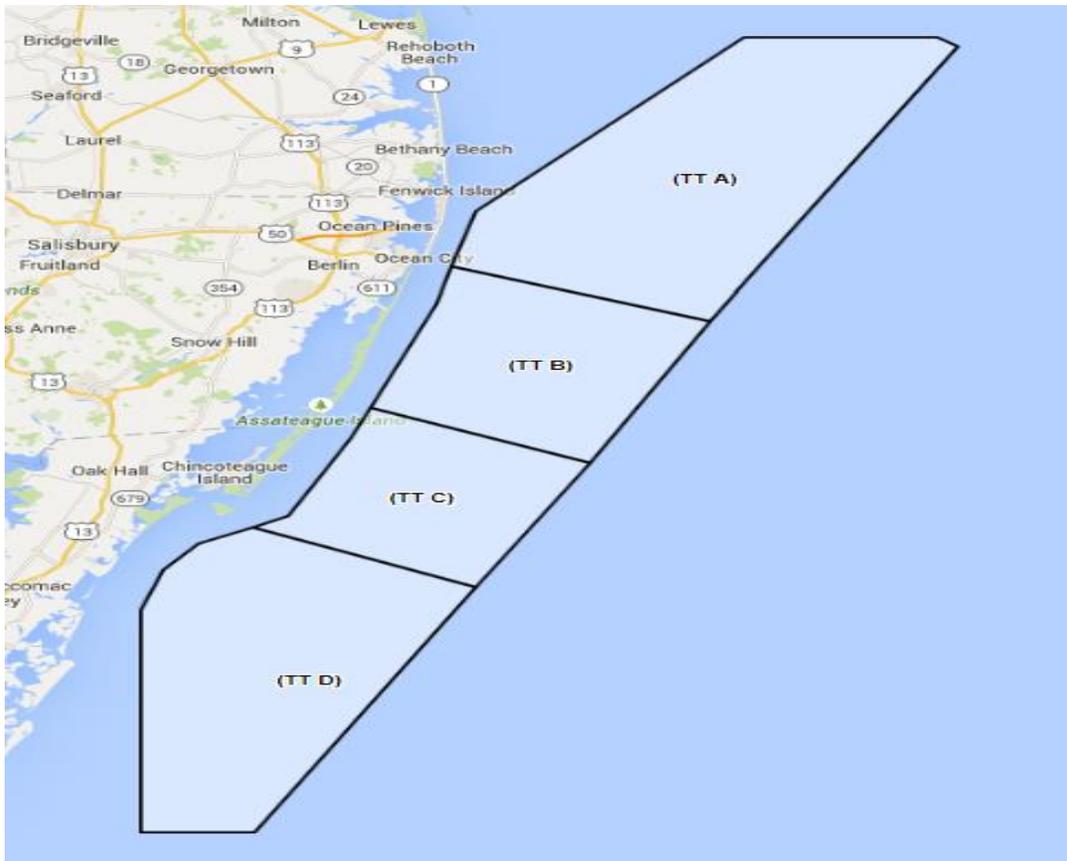
38:13'00"N 074:40'00"W
THEN ALONG THE COASTAL ADIZ
37:57'00"N 074:50'30"W
38°03'00"N 075°09'00"W
THEN 3NM FROM AND PARALLEL TO
THE SHORELINE TO
38°18'45"N 075°01'15"W
38°13'00"N 074°40'00"W
38°45'00"N 074°20'00"W

TEST TRACK C

37°57'00"N 074°50'30"W
THEN ALONG THE COASTAL ADIZ
37°43'00"N 075°00'30"W
37°49'30"N 075°19'16"W
THEN 3NM FROM AND PARALLEL TO
THE SHORELINE TO
38°03'00"N -075°09'00"W
37°57'00"N -074°50'30"W

TEST TRACK D

37°43'00"N 075°00'30"W
THEN ALONG THE COASTAL ADIZ
37°15'00"N 075°20'00"W
37°15'00"N 075°30'00"W
37°41'28"N 075°30'00"W
THEN 3NM FROM AND PARALLEL TO
THE SHORELINE TO
37°49'30"N 075°19'16"W
37°43'00"N 075°00'30"W



E. Warning Area 387 (W-387).

NOTE: W-387A and W-387B share the same geographical coordinates but are separated by altitude.

W-387A

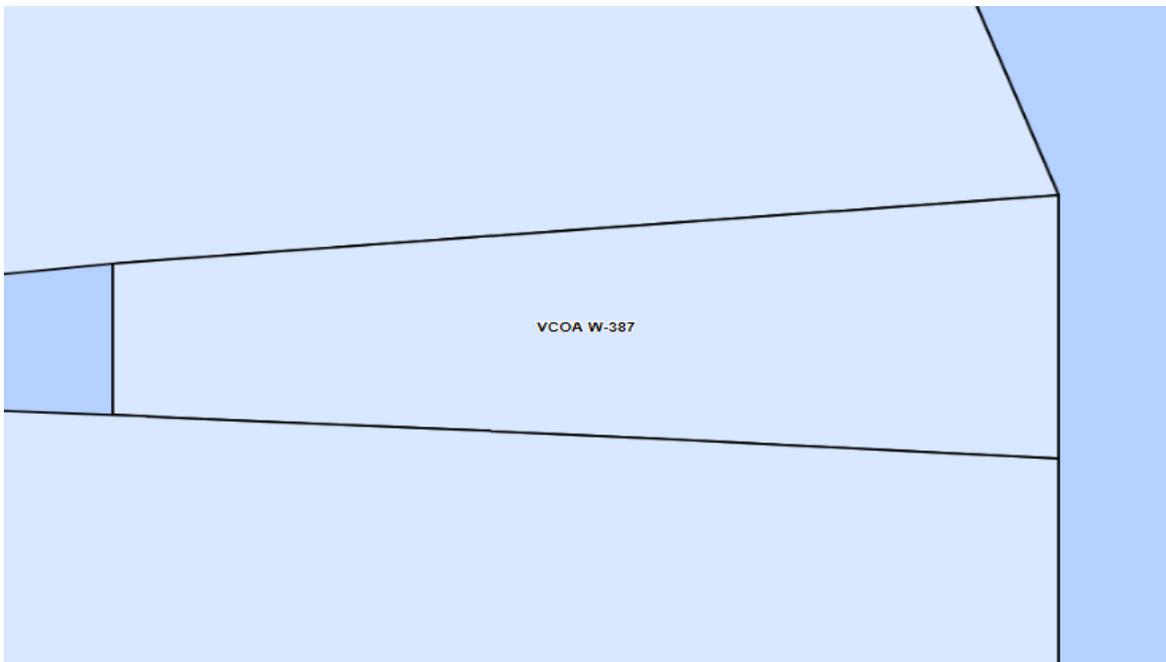
SURFACE TO BUT NOT INCLUDING FL240

37°04'54"N/074°35'59"W TO
37°13'40"N/072°39'59"W TO
36°42'09"N/072°39'58"W TO
36°47'16"N/074°35'59"W TO
37°04'54"N/074°35'59"W

W-387B

FL240 TO UNLIMITED

37°04'54"N/074°35'59"W TO
37°13'40"N/072°39'59"W TO
36°42'09"N/072°39'58"W TO
36°47'16"N/074°35'59"W TO
37°04'54"N/074°35'59"W



F. W-105 WAD Air Grid:

AIR-A SURFACE TO FL500

39°59'18"N/072°16'37"W TO
40°04'20"N/072°29'58"W TO
40°26'56"N/072°09'55"W TO
40°38'30"N/071°30'00"W TO
40°16'02"N/071°05'07"W TO
39°59'18"N/072°16'37"W

AIR-B SURFACE TO FL500

40°16'02"N/071°05'07"W TO
40°38'30"N/071°30'00"W TO
41°01'36"N/070°45'46"W TO
40°29'03"N/070°10'22"W TO
40°16'02"N/071°05'07"W

AIR-C SURFACE TO FL500

40°29'03"N/070°10'22"W TO
41°01'36"N/070°45'46"W TO
41°06'52"N/070°22'51"W TO
41°05'26"N/070°19'47"W TO
41°04'35"N/070°16'00"W TO
41°03'43"N/070°14'10"W TO
41°03'21"N/070°13'01"W TO
41°02'32"N/070°09'24"W TO
41°02'29"N/070°05'12"W TO
41°02'34"N/070°01'26"W TO
41°02'38"N/070°00'15"W TO
41°02'30"N/070°00'00"W TO
40°39'50"N/069°23'28"W TO
40°29'03"N/070°10'22"W

AIR-D SURFACE TO FL500

39°38'42"N/071°33'46"W TO
39°58'19"N/072°16'37"W TO
40°16'02"N/071°05'07"W TO
39°45'43"N/070°32'02"W TO
39°38'42"N/071°33'46"W

AIR-E SURFACE TO FL500

39°45'43"N/070°32'02"W TO
40°16'02"N/071°05'07"W TO
40°29'03"N/070°10'22"W TO
39°52'08"N/069°31'01"W TO
39°45'43"N/070°32'02"W

AIR-F SURFACE TO FL500

39°52'08"N/069°31'01"W TO
40°29'03"N/070°10'22"W TO
40°39'50"N/069°23'28"W TO
40°26'46"N/069°06'23"W TO
39°58'00"N/068°29'50"W TO
39°52'08"N/069°31'01"W

AIR-G SURFACE TO FL500

40°38'00"N/071°59'58"W TO
40°44'00"N/071°59'58"W TO
40°48'36"N/071°40'55"W TO
40°38'30"N/071°30'00"W TO
40°26'56"N/072°09'55"W TO
40°38'00"N/071°59'58"W

AIR-H SURFACE TO FL500

40°38'30"N/071°30'00"W TO
40°48'36"N/071°40'55"W TO
41°01'36"N/070°45'46"W TO
40°38'30"N/071°30'00"W

AIR-I SURFACE TO FL500

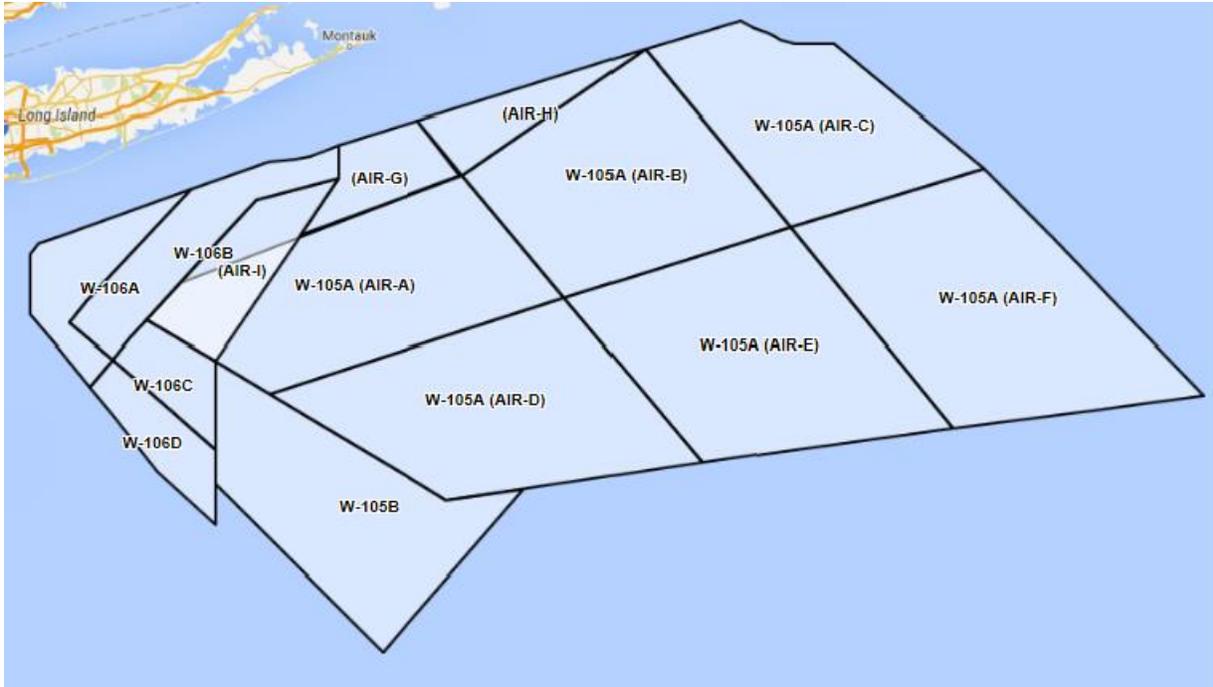
40°11'55"N/072°46'53"W TO
40°34'00"N/072°19'58"W TO
40°38'00"N/071°59'58"W TO

W-105B SFC TO FL180

40°04'20"N/072°29'58"W TO
39°38'42"N/071°33'46"W TO
39°40'45"N/071°14'58"W TO

40°26'56"N/072°09'55"W TO
40°04'20"N/072°29'58"W TO
40°11'55"N/072°46'53"W

39°10'24"N/071°49'10"W TO
39°41'33"N/072°29'58"W TO
40°04'20"N/072°29'58"W



W-106 Air Grid:

W-106A SFC TO 3,000FT MSL

40°13'00"N/073°14'58"W TO
40°24'00"N/073°14'58"W TO
40°26'00"N/073°13'00"W
THEN 12NM FROM AND PARALLEL TO
THE SHORELINE TO
40°36'00"N/072°36'00"W TO
40°15'20"N/073°01'28"W TO
40°11'35"N/073°05'33"W TO
40°04'43"N/072°55'03"W TO
39°59'40"N/073°00'28"W TO
40°08'00"N/073°09'28"W TO
40°13'00"N/073°14'58"W

W-106B SFC TO 8,000FT MSL

40°11'35"N/073°05'33"W TO
40°15'20"N/073°01'28"W TO
40°36'00"N/072°36'00"W
THEN 12NM FROM AND PARALLEL TO
THE SHORELINE TO
40°41'00"N/072°17'00"W TO
40°41'30"N/072°10'28"W TO
40°42'00"N/072°06'58"W TO
40°44'00"N/071°59'58"W TO
40°38'00"N/071°59'58"W TO
40°34'00"N/072°19'58"W TO
40°26'00"N/072°29'58"W TO
40°08'30"N/072°50'58"W TO
40°04'43"N/072°55'03"W TO
40°11'35"N/073°05'33"W

W-106C SFC TO 10,000FT MSL

40°04'43"N/072°55'03"W TO
40°08'30"N/072°50'58"W TO
40°11'55"N/072°46'53"W TO

**W-106D SFC TO BUT NOT INCLUDING
6,000FT MSL**

39°59'40"N/073°00'28"W TO
40°04'43"N/072°55'03"W TO

15 Sep 15

40°04'20"N/072°29'58"W TO
39°48'06"N/072°29'58"W TO
40°04'43"N/072°55'03"W

39°48'06"N/072°29'58"W TO
39°34'00"N/072°29'58"W TO
39°44'00"N/072°43'58"W TO
39°59'40"N/073°00'28"W

G. W-107 WAD Air Grid:



AIR-A SURFACE TO UNLIMITED

38°58'00"N/074°19'59"W TO
39°24'55"N/073°45'47"W TO
39°36'10"N/073°35'12"W TO
39°11'20"N/073°17'00"W TO
38°47'00"N/073°57'15"W TO
38°58'00"N/074°19'59"W

AIR-B SURFACE TO UNLIMITED

39°36'10"N/073°35'12"W TO
39°44'00"N/073°27'49"W TO
39°44'00"N/072°53'01"W TO
39°33'06"N/072°42'26"W TO
39°11'20"N/073°17'00"W TO
39°36'10"N/073°35'12"W

AIR-C SURFACE TO UNLIMITED

39°11'20"N/073°17'00"W TO
39°33'06"N/072°42'26"W TO
39°12'50"N/072°23'00"W TO
38°49'47"N/073°01'01"W TO
39°11'20"N/073°17'00"W

AIR-D SURFACE TO UNLIMITED

38°47'00"N/073°57'15"W TO
39°11'20"N/073°17'00"W TO
38°49'47"N/073°01'01"W TO
38°33'00"N/073°28'15"W TO
38°34'00"N/073°30'58"W TO
38°47'00"N/073°57'15"W

AIR-E SURFACE TO UNLIMITED

38°33'00"N/073°28'15"W TO
39°12'50"N/072°23'00"W TO
39°05'48"N/072°16'12"W TO
38°17'00"N/072°50'02"W TO
38°33'00"N/073°28'15"W

**W-107B SEC TO BUT NOT INCLUDING
2,000FT MSL**

39°34'30"N/073°56'00"W TO
38°17'00"N/072°50'02"W
THEN 12NM FROM AND PARALLEL TO
THE SHORELINE TO

15 Sep 15

40°00'00"N/073°48'00"W TO
40°00'00"N/073°36'58"W TO
39°52'00"N/073°28'58"W TO
39°34'30"N/073°56'00"W

**W-107C SFC TO BUT NOT INCLUDING
FL180**

39°44'00"N/073°40'58"W TO
39°09'00"N/074°36'34"W
THEN 12NM FROM AND PARALLEL TO
THE SHORELINE TO
39°34'30"N/073°56'00"W TO
39°44'00"N/073°40'58"W TO
39°44'00"N/073°27'49"W TO
39°24'55"N/073°45'47"W TO
38°58'00"N/074°19'59"W TO
39°44'00"N/073°40'58"W

**W-107 Corridor 7,000 MSL TO BUT NOT
INCLUDING FL180**

39°25'42"N/074°02'34"W TO
39°33'16"N/073°57'04"W TO
39°34'30"N/073°56'00"W TO
39°44'00"N/073°40'58"W TO
39°44'00"N/073°27'51"W TO
39°24'55"N/073°45'47"W TO
39°23'11"N/073°59'56"W TO
39°25'42"N/074°02'34"W

H. W-122 Air Grid:



W-122 (1) SURFACE TO UNLIMITED
34°50'00"N/076°15'00"W
THEN 3NM FROM AND PARALLEL TO
THE SHORELINE TO
35°30'00"N/075°24'55"W TO
35°13'00"N/075°05'00"W TO
34°40'00"N/076°04'00"W TO
34°50'00"N/076°15'00"W

W-122 (2) SURFACE TO UNLIMITED
34°57'00"N/075°34'00"W TO
34°32'00"N/075°05'00"W TO
34°13'00"N/075°32'00"W TO
34°40'00"N/076°04'00"W TO
34°57'00"N/075°34'00"W

W-122 (3) SURFACE TO UNLIMITED
35°13'00"N/075°05'00"W TO
34°50'10"N/074°38'40"W TO
34°32'00"N/075°05'00"W TO
34°57'00"N/075°34'00"W TO

W-122 (4) SURFACE TO UNLIMITED
34°32'00"N/075°05'00"W TO
34°15'00"N/074°46'30"W TO
33°55'15"N/075°13'30"W TO
34°00'30"N/075°19'24"W TO

35°13'00"N/075°05'00"W

34°13'00"N/075°32'00"W TO
34°32'00"N/075°05'00"W

W-122 (5) SURFACE TO UNLIMITED

34°50'10"N/074°38'40"W TO
34°34'10"N/074°20'05"W TO
34°15'00"N/074°46'30"W TO
34°32'00"N/075°05'00"W TO
34°50'10"N/074°38'40"W

W-122 (6) SURFACE TO UNLIMITED

34°15'00"N/074°46'30"W TO
33°55'15"N/074°24'15"W TO
33°36'00"N/074°52'00"W TO
33°55'15"N/075°13'30"W TO
34°15'00"N/074°46'30"W

W-122 (7) SURFACE TO UNLIMITED

34°34'10"N/074°20'05"W TO
34°14'00"N/073°57'00"W TO
33°55'15"N/074°24'15"W TO
34°15'00"N/074°46'30"W TO
34°34'10"N/074°20'05"W

W-122 (8) SURFACE TO UNLIMITED

34°50'00"N/076°15'00"W TO
34°40'00"N/076°04'00"W TO
34°17'00"N/076°45'00"W TO
34°37'45"N/076°56'00"W
THEN 3NM FROM AND PARALLEL TO
SHORELINE TO
34°50'00"N/076°15'00"W

W-122 (9) SURFACE TO UNLIMITED

34°28'06"N/076°25'06"W TO
34°04'30"N/076°05'30"W TO
33°49'00"N/076°30'00"W TO
34°17'00"N/076°45'00"W TO
34°28'06"N/076°25'06"W

W-122 (10) SURFACE TO UNLIMITED

34°40'00"N/076°04'00"W TO
34°20'15"N/075°40'36"W TO
34°04'30"N/076°05'30"W TO
34°28'06"N/076°25'06"W TO
34°40'00"N/076°04'00"W

W-122 (11) SURFACE TO UNLIMITED

34°04'30"N/076°05'30"W TO
33°40'30"N/075°46'30"W TO
33°20'00"N/076°14'41"W TO
33°49'00"N/076°30'00"W TO
34°04'30"N/076°05'30"W

W-122 (12) SURFACE TO UNLIMITED

34°20'15"N/075°40'36"W TO
34°13'00"N/075°32'00"W TO
34°00'30"N/075°19'24"W TO
33°40'30"N/075°46'30"W TO
34°04'30"N/076°05'30"W TO
34°20'15"N/075°40'36"W

W-122 (13) SURFACE TO UNLIMITED

33°40'30"N/075°46'30"W TO
33°13'00"N/075°24'30"W TO
32°50'00"N/075°57'00"W TO
33°20'00"N/076°14'41"W TO
33°40'30"N/075°46'30"W

W-122 (14) SURFACE TO UNLIMITED

34°00'30"N/075°19'24"W TO
33°36'00"N/074°52'00"W TO
33°13'00"N/075°24'30"W TO
33°40'30"N/075°46'30"W TO
34°00'30"N/075°19'24"W

W-122 15A SURFACE TO UNLIMITED

34°38'00"N/076°56'15"W
THEN 3 NM FROM AND PARALLEL TO
THE SHORELINE TO
34°29'00"N/077°19'00"W TO
33°53'10"N/077°30'30"W TO

W-122 15B SURFACE TO UNLIMITED

34°34'30"N/077°09'00"W
THEN 3 NM FROM AND PARALLEL TO
THE SHORELINE TO
34°34'45"N/077°16'15"W TO
34°25'45"N/077°15'45"W TO

33°53'00"N/076°44'35"W TO
34°38'00"N/076°56'15"W

WESTERN PORTION OF W-122 (15A)
SURFACE TO BUT NOT INCLUDING
FL240 LOCATED WITHIN THE
FOLLOWING AREA:
34°23'31"N/077°29'59"W
THEN NE 3 NM FROM AND PARALLEL
TO THE SHORELINE TO
34°28'55"N/077°18'56"W TO
33°32'41"N/077°30'41"W TO
34°23'31"N/077°29'59"W

W-122 (16) SURFACE TO UNLIMITED
34°04'15"N/077°07'06"W TO
33°33'00"N/076°55'00"W TO
33°10'00"N/077°31'00"W TO
33°10'00"N/077°31'00"W TO
34°04'15"N/077°07'06"W

W-122 (18) SURFACE TO UNLIMITED
33°33'00"N/076°55'00"W TO
33°00'00"N/076°42'00"W TO
33°00'00"N/077°29'00"W TO
33°10'00"N/077°31'00"W TO
33°33'00"N/076°55'00"W

W-122 (20) SURFACE TO UNLIMITED
33°00'00"N/076°42'00"W TO
32°39'00"N/076°42'00"W TO
32°39'00"N/077°24'15"W TO
33°00'00"N/077°29'00"W TO
33°00'00"N/076°42'00"W

W-122 (22) SURFACE TO UNLIMITED
32°39'00"N/077°24'15"W TO
32°39'00"N/076°50'00"W TO
32°12'15"N/076°50'00"W TO
32°20'00"N/077°20'00"W TO
32°39'00"N/077°24'15"W

WHISKEY CORRIDOR

34°34'30"N/077°04'30"W TO
34°34'30"N/077°09'00"W

**NORTHWESTERN PORTION OF
W-122 (16)**
SURFACE TO BUT NOT INCLUDING
FL240 LOCATED WITHIN THE
FOLLOWING AREA:
34°23'31"N/077°29'59"W
THEN NE 3 NM FROM AND PARALLEL
TO THE SHORELINE TO
34°28'55"N/077°18'56"W TO
33°32'41"N/077°30'41"W TO
34°23'31"N/077°29'59"W

**W-122 (17) SURFACE TO UNLIMITED
EXCEPT NORTHWESTERN IS
SURFACE TO FL230**
34°17'00"N/076°45'00"W TO
33°49'00"N/076°30'00"W TO
33°33'00"N/076°55'00"W TO
34°04'15"N/077°07'06"W TO
34°17'00"N/076°45'00"W

W-122 (19) SURFACE TO UNLIMITED
33°49'00"N/076°30'00"W TO
33°20'00"N/076°16'41"W TO
33°00'00"N/076°42'00"W TO
33°33'00"N/076°55'00"W TO
33°49'00"N/076°30'00"W

W-122 (21) SURFACE TO UNLIMITED
33°20'00"N/076°14'41"W TO
32°50'00"N/075°57'00"W TO
32°39'00"N/076°12'00"W TO
32°39'00"N/076°42'00"W TO
33°00'00"N/076°42'00"W TO
33°20'00"N/076°14'41"W

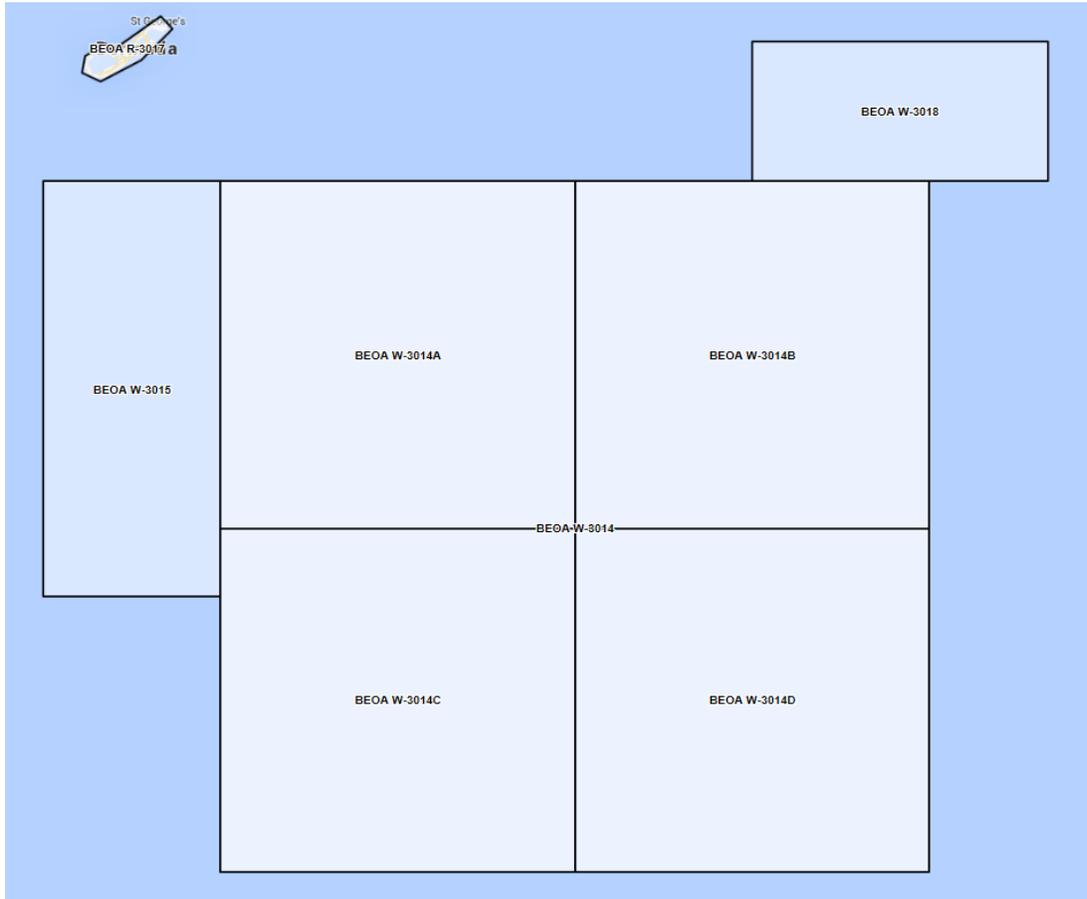
W-122 (23) SURFACE TO UNLIMITED
32°39'00"N/076°50'00"W TO
32°39'00"W/076°12'00"W TO
32°12'00"N/076°49'00"W TO
32°12'15"N/076°50'00"W TO
32°39'00"W/076°12'00"W

X-RAY CORRIDOR

34°18'30"N/076°42'30"W TO
33°50'24"N/076°28'00"W TO
33°21'15"N/076°13'00"W TO
33°20'00"N/076°14'40"W TO
33°18'00"N/076°17'30"W TO
33°47'24"N/076°32'36"W TO
34°15'30"N/076°47'15"W TO
34°17'00"N/076°45'00"W TO
34°18'30"N/076°42'30"W

34°41'30"N/076°01'15"W TO
34°14'15"N/075°30'15"W TO
34°02'00"N/075°17'00"W TO
34°00'30"N/075°19'24"W TO
33°58'54"N/075°21'30"W TO
34°18'30"N/075°43'30"W TO
34°38'24"N/076°07'00"W TO
34°41'30"N/076°01'15"W

I. Bermuda OPAREA AD Grid.



BEOA R-3017

32°14'20"N 064°50'15"W, 32°15'30"N 064°53'30"W
32°17'55"N 064°53'00"W, 32°19'45"N 064°49'30"W
32°18'40"N 064°48'30"W, 32°23'40"N 064°40'10"W
32°21'50"N 064°38'10"W, 32°17'20"N 064°43'20"W

BEOA W-3014

32°00'00"N 064°30'00"W, 32°00'00"N 062°30'00"W
30°19'59"N 062°30'00"W, 30°19'59"N 064°30'00"W

BEOA W-3014A

32°00'00"N 064°30'00"W, 32°00'00"N 063°30'00"W
31°10'00"N 063°30'00"W, 31°10'00"N 064°30'00"W

BEOA W-3014B

32°00'00"N 063°30'00"W, 32°00'00"N 062°30'00"W
31°10'00"N 062°30'00"W, 31°10'00"N 063°30'00"W

15 Sep 15

BEOA W-3014C

31°10'00"N 064°30'00"W, 31°10'00"N, 063°30'00"W
30°20.00"N 063°30'00"W, 30°20.00"N, 064°30'00"W

BEOA W-3014D

31°10'00.012"N, 063°30'00.000"W, 31°10'00.012"N, 062°30'00.000"W
30°19'59.988"N, 062°30'00.000"W, 30°19'59.988"N, 063°30'00.000"W

BEOA W-3015

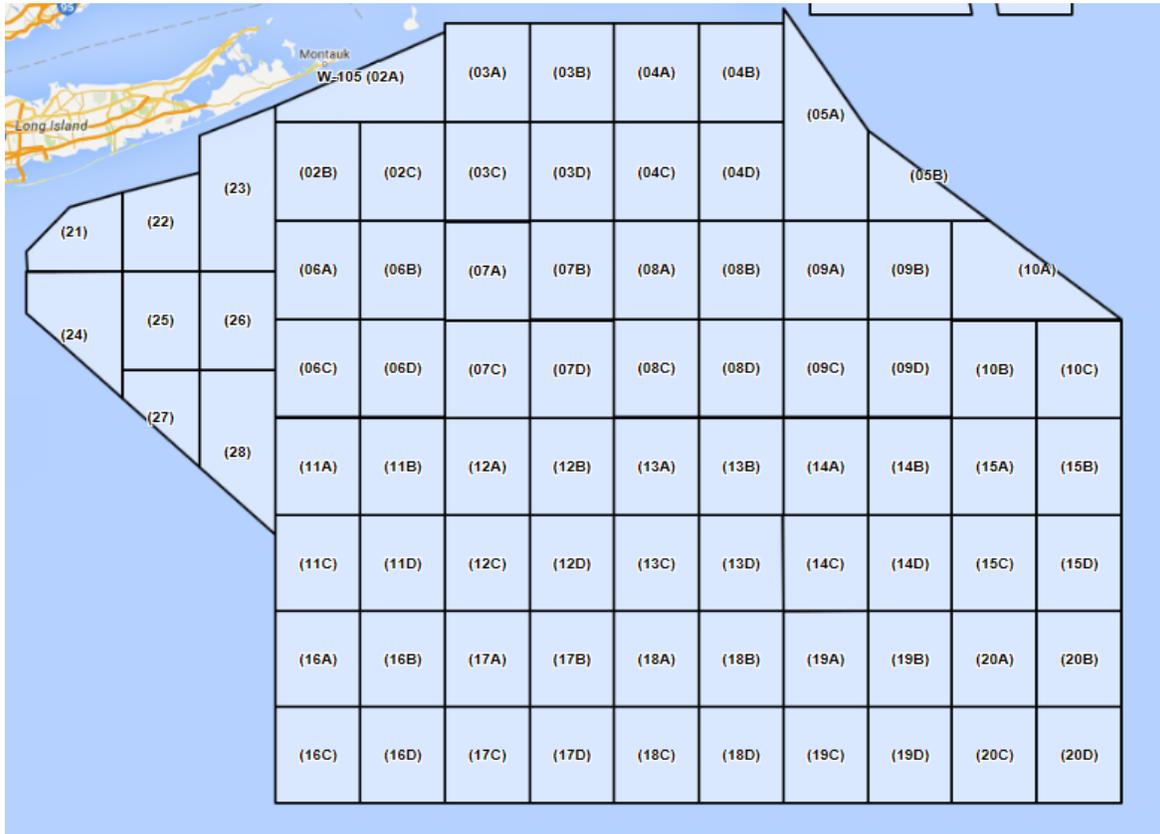
32°00'00"N 064°30'00"W, 31°00'00"N 064°30'00"W
31°00'00"N 065°00'00"W, 32°00'00"N 065°00'00"W

BEOA W-3018

32°20.00"N 062°10'00"W, 32°00'00"N 062°10'00"W
32°00'00"N 063°00'00"W, 32°20.00"N 063°00'00"W

SURFACE AREA GRID COORDINATES FOR NARRAGANSETT BAY OPERATING AREA

<u>OPAREA Coordinator</u>	<u>Scheduling Agency</u>	<u>VDS Coordinator</u>	<u>SEAC</u>
FACSFAC	FACSFAC	FACSFAC	COMSUBLANT
VACAPES	VACAPES	VACAPES	



- 01** 41°17'00"N 071°30'00"W, 41°18'00"N 071°17'00"W
41°18'00"N 070°49'30"W
THEN CCW VIA A 2.6 NM ARC CENTERED AT
41°15'30"N 070°48'40"W to
41°13'00"N 070°48'00"W, 41°10'00"N 070°42'00"W
41°10'00"N 071°26'00"W
- 02A** 40°53'30"N 072°10'00"W, 41°08'30"N 071°26'00"W
40°50'00"N 071°26'00"W, 40°50'00"N 072°10'00"W
- 02B** 40°50'00"N 072°10'00"W, 40°50'00"N 071°48'00"W
40°30'00"N 071°48'00"W, 40°30'00"N 072°10'00"W
- 02C** 40°50'00"N 071°48'00"W, 40°50'00"N 071°26'00"W
40°30'00"N 071°26'00"W, 40°30'00"N 071°48'00"W

- 03A** 41°10'00"N 071°26'00"W, 41°10'00"N 071°04'00"W
40°50'00"N 071°04'00"W, 40°50'00"N 071°26'00"W
- 03B** 41°10'00"N 071°04'00"W, 41°10'00"N 070°42'00"W
40°50'00"N 070°42'00"W, 40°50'00"N 071°04'00"W
- 03C** 40°50'00"N 071°26'00"W, 40°50'00"N 071°04'00"W
40°30'00"N 071°04'00"W, 40°30'00"N 071°26'00"W
- 03D** 40°50'00"N 071°04'00"W, 40°50'00"N 070°42'00"W
40°30'00"N 070°42'00"W, 40°30'00"N 071°04'00"W
- 04A** 41°10'00"N 070°42'00"W, 41°10'00"N 070°20'00"W
40°50'00"N 070°20'00"W, 40°50'00"N 070°42'00"W
- 04B** 41°10'00"N 070°20'00"W, 41°10'00"N 070°12'30"W
41°01'30"N 069°58'00"W, 40°50'00"N 069°58'00"W
40°50'00"N 070°20'00"W
- 04C** 40°50'00"N 070°42'00"W, 40°50'00"N 070°20'00"W
40°30'00"N 070°2'00"W, 40°30'00"N 070°42'00"W
- 04D** 40°50'00"N 070°20'00"W, 40°50'00"N 069°58'00"W
40°30'00"N 069°58'00"W, 40°30'00"N 070°20'00"W
- 05A** 41°01'30"N 069°58'00"W, 40°48'30"N 069°36'00"W
40°30'00"N 069°36'00"W, 40°30'00"N 069°58'00"W
- 05B** 40°48'30"N 069°30'06"W, 40°30'00"N 069°04'15"W
40°30'00"N 069°36'00"W
- 06A** 40°30'00"N 072°10'00"W, 40°30'00"N 071°48'00"W
40°10'00"N 071°48'00"W, 40°10'00"N 072°10'00"W
- 06B** 40°30'00"N 071°48'00"W, 40°30'00"N 071°26'00"W
40°10'00"N 071°26'00"W, 40°10'00"N 071°48'00"W
- 06C** 40°10'00"N 072°10'00"W, 40°10'00"N 071°48'00"W
39°50'00"N 071°48'00"W, 39°50'00"N 072°10'00"W
- 06D** 40°10'00"N 071°48'00"W, 40°10'00"N 071°26'00"W
39°50'00"N 071°20'06"W, 39°50'00"N 071°48'00"W
- 07A** 40°30'00"N 071°26'00"N, 40°30'00"N 071°04'00"W
40°10'00"N 071°04'00"W, 40°10'00"N 071°26'00"W
- 07B** 40°30'00"N 071°04'00"W, 40°30'00"N 070°42'00"W
40°10'00"N 070°42'00"W, 40°10'00"N 071°04'00"W
- 07C** 40°10'00"N 071°26'00"W, 40°10'00"N 071°04'00"W
39°50'00"N 071°04'00"W, 39°50'00"N 071°26'00"W
- 07D** 40°10'00"N 071°04'00"W, 40°10'00"N 070°42'00"W
39°50'00"N 070°42'00"W, 39°50'00"N 071°04'00"W
- 08A** 40°30'00"N 070°42'00"W, 40°30'00"N 070°20'00"W
40°10'00"N 070°20'00"W, 40°10'00"N 070°42'00"W
- 08B** 40°30'00"N 070°20'00"W, 40°30'00"N 069°58'00"W
40°10'00"N 069°58'00"W, 40°10'00"N 070°20'00"W

08C 40°10'00"N 070°42'00"W, 40°10'00"N 070°20'00"W
39°50'00"N 070°20'00"W, 39°50'00"N 070°42'00"W

08D 40°10'00"N 070°20'00"W, 40°10'00"N 069°58'00"W
39°50'00"N 069°58'00"W, 39°50'00"N 070°20'00"W

09A 40°30'00"N 069°58'00"W, 40°30'00"N 069°36'00"W
40°10'00"N 069°36'00"W, 40°10'00"N 069°58'00"W

09B 40°30'00"N 069°36'00"W, 40°30'00"N 069°14'00"W
40°10'00"N 069°14'00"W, 40°10'00"N 069°36'00"W

09C 40°10'00"N 069°58'00"W, 40°10'00"N 069°36'00"W
39°50'00"N 069°36'00"W, 39°50'00"N 069°58'00"W

09D 40°10'00"N 069°36'00"W, 40°10'00"N 069°14'00"W
39°50'00"N 069°14'00"W, 39°50'00"N 069°36'00"W

10A 40°30'00"N 069°14'00"W, 40°30'00"N 069°04'15"W
40°10'00"N 068°30'00"W, 40°10'00"N 069°14'00"W

10B 40°10'00"N 069°14'00"W, 40°10'00"N 068°52'00"W
39°50'00"N 068°52'00"W, 39°50'00"N 069°14'00"W

10C 40°10'00"N 068°52'00"W, 40°10'00"N 068°30'00"W
39°50'00"N 068°30'00"W, 39°50'00"N 068°52'00"W

11A 39°50'00"N 072°10'00"W, 39°50'00"N 071°48'00"W
39°30'00"N 071°48'00"W, 39°30'00"N 072°10'00"W

11B 39°50'00"N 071°48'00"W, 39°50'00"N 071°26'00"W
39°30'00"N 071°26'00"W, 39°30'00"N 071°48'00"W

11C 39°30'00"N 072°10'00"W, 39°30'00"N 071°48'00"W
39°10'00"N 071°48'00"W, 39°10'00"N 072°10'00"W

11D 39°30'00"N 071°48'00"W, 39°30'00"N 071°26'00"W
39°10'00"N 071°26'00"W, 39°10'00"N 071°48'00"W

12A 39°50'00"N 071°26'00"W, 39°50'00"N 071°04'00"W
39°30'00"N 071°04'00"W, 39°30'00"N 071°26'00"W

12B 39°50'00"N 071°04'00"W, 39°50'00"N 070°42'00"W
39°30'00"N 070°42'00"W, 39°30'00"N 071°04'00"W

12C 39°30'00"N 071°26'00"W, 39°30'00"N 071°04'00"W
39°10'00"N 071°04'00"W, 39°10'00"N 071°26'00"W

12D 39°30'00"N 071°04'00"W, 39°30'00"N 070°42'00"W
39°10'00"N 070°42'00"W, 39°10'00"N 071°04'00"W

13A 39°50'00"N 070°42'00"W, 39°50'00"N 070°20'00"W
39°30'00"N 070°20'00"W, 39°30'00"N 070°42'00"W

13B 39°50'00"N 070°20'00"W, 39°50'00"N 069°58'00"W
39°30'00"N 069°58'00"W, 39°30'00"N 070°20'00"W

13C 39°30'00"N 070°42'00"W, 39°30'00"N 070°20'00"W
39°10'00"N 070°20'00"W, 39°10'00"N 070°42'00"W

13D 39°30'00"N 070°20'00"W, 39°30'00"N 069°58'00"W

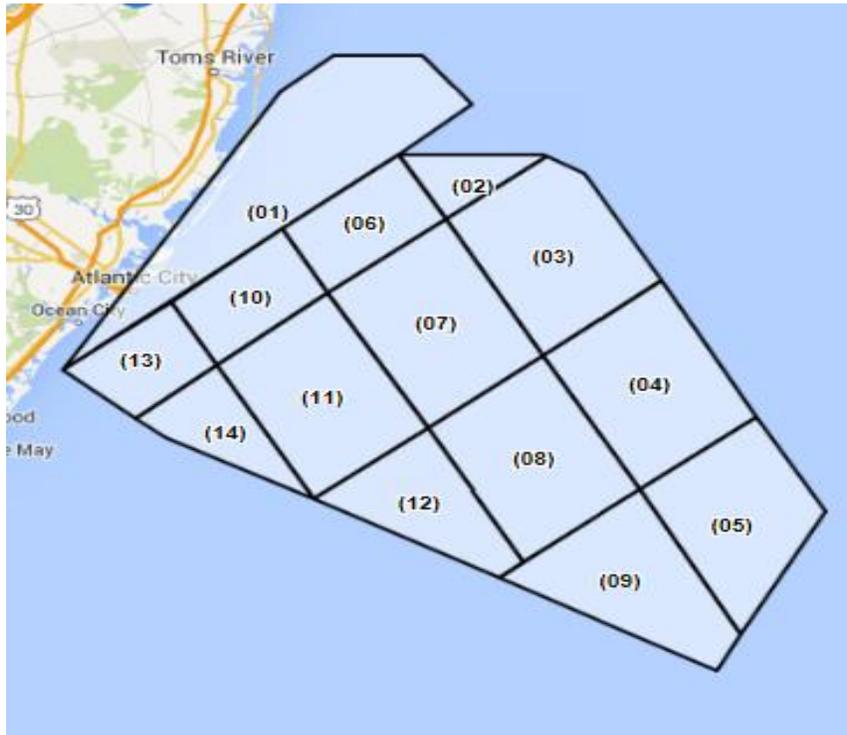
- 14A** 39°10'00"N 069°58'00"W, 39°10'00"N 070°20'00"W
39°50'00"N 069°58'00"W, 39°50'00"N 069°36'00"W
39°30'00"N 069°36'00"W, 39°30'00"N 069°58'00"W
- 14B** 39°50'00"N 069°36'00"W, 39°50'00"N 069°14'00"W
39°30'00"N 069°14'00"W, 39°30'00"N 069°36'00"W
- 14C** 39°30'00"N 069°58'00"W, 39°30'00"N 069°36'00"W
39°10'00"N 069°36'00"W, 39°10'00"N 069°58'00"W
- 14D** 39°30'00"N 069°36'00"W, 39°30'00"N 069°14'00"W
39°10'00"N 069°14'00"W, 39°10'00"N 069°36'00"W
- 15A** 39°50'00"N 069°14'00"W, 39°50'00"N 068°52'00"W
39°30'00"N 068°52'00"W, 39°30'00"N 069°14'00"W
- 15B** 39°50'00"N 068°52'00"W, 39°50'00"N 068°30'00"W
39°30'00"N 068°30'00"W, 39°30'00"N 068°52'00"W
- 15C** 39°30'00"N 069°14'00"W, 39°30'00"N 068°52'00"W
39°10'00"N 068°52'00"W, 39°10'00"N 069°14'00"W
- 15D** 39°30'00"N 068°52'00"W, 39°30'00"N 068°30'00"W
39°10'00"N 068°30'00"W, 39°10'00"N 068°52'00"W
- 16A** 39°10'00"N 072°10'00"W, 39°10'00"N 071°48'00"W
38°50'00"N 071°48'00"W, 38°50'00"N 072°10'00"W
- 16B** 39°10'00"N 071°48'00"W, 39°10'00"N 071°26'00"W
38°50'00"N 071°26'00"W, 38°50'00"N 071°48'00"W
- 16C** 38°50'00"N 072°10'00"W, 38°50'00"N 071°48'00"W
38°30'00"N 071°48'00"W, 38°30'00"N 072°10'00"W
- 16D** 38°50'00"N 071°48'00"W, 38°50'00"N 071°26'00"W
38°30'00"N 071°26'00"W, 38°30'00"N 071°48'00"W
- 17A** 39°10'00"N 071°26'00"W, 39°10'00"N 071°04'00"W
38°50'00"N 071°04'00"W, 38°50'00"N 071°26'00"W
- 17B** 39°10'00"N 071°04'00"W, 39°10'00"N 070°42'00"W
38°50'00"N 070°42'00"W, 38°50'00"N 071°04'00"W
- 17C** 38°50'00"N 071°26'00"W, 38°50'00"N 071°04'00"W
38°30'00"N 071°04'00"W, 38°30'00"N 071°26'00"W
- 17D** 38°50'00"N 071°04'00"W, 38°50'00"N 070°42'00"W
38°30'00"N 070°42'00"W, 38°30'00"N 071°04'00"W
- 18A** 39°10'00"N 070°42'00"W, 39°10'00"N 070°20'00"W
38°50'00"N 070°20'00"W, 38°50'00"N 070°42'00"W
- 18B** 39°10'00"N 070°20'00"W, 39°10'00"N 069°58'00"W
38°50'00"N 069°58'00"W, 38°50'00"N 070°20'00"W
- 18C** 38°50'00"N 070°42'00"W, 38°50'00"N 070°20'00"W
38°30'00"N 070°20'00"W, 38°30'00"N 070°42'00"W
- 18D** 38°50'00"N 070°20'00"W, 38°50'00"N 069°58'00"W
38°30'00"N 069°58'00"W, 38°30'00"N 070°20'00"W

15 Sep 15

- 19A** 39°10'00"N 069°58'00"W, 39°10'00"N 069°36'00"W
38°50'00"N 069°36'00"W, 38°50'00"N 069°58'00"W
- 19B** 39°10'00"N 069°36'00"W, 39°10'00"N 069°14'00"W
38°50'00"N 069°14'00"W, 38°50'00"N 069°36'00"W
- 19C** 38°50'00"N 069°58'00"W, 38°50'00"N 069°36'00"W
38°30'00"N 069°36'00"W, 38°30'00"N 069°58'00"W
- 19D** 38°50'00"N 069°36'00"W, 38°50'00"N 069°14'00"W
38°30'00"N 069°14'00"W, 38°30'00"N 069°36'00"W
- 20A** 39°10'00"N 069°14'00"W, 39°10'00"N 068°52'00"W
38°50'00"N 068°52'00"W, 38°50'00"N 069°14'00"W
- 20B** 39°10'00"N 068°52'00"W, 39°10'00"N 068°30'00"W
38°50'00"N 068°30'00"W, 38°50'00"N 068°52'00"W
- 20C** 38°50'00"N 069°14'00"W, 38°50'00"N 068°52'00"W
38°30'00"N 068°52'00"W, 38°30'00"N 069°14'00"W
- 20D** 38°50'00"N 068°52'00"W, 38°50'00"N 068°30'00"W
38°30'00"N 068°30'00"W, 38°30'00"N 068°52'00"W
- 21** 40°24'00"N 073°15'00"W, 40°33'00"N 073°04'00"W
40°36'00"N 072°50'00"W, 40°20'00"N 072°50'00"W
40°20'00"N 073°15'00"W
- 22** 40°36'00"N 072°50'00"W, 40°40'00"N 072°30'00"W
40°20'00"N 072°30'00"W, 40°20'00"N 072°50'00"W
- 23** 40°47'30"N 072°30'00"W, 40°53'30"N 072°10'00"W
40°20'00"N 072°10'00"W, 40°20'00"N 072°30'00"W
- 24** 40°20'00"N 073°15'00"W, 40°20'00"N 072°50'00"W
39°54'00"N 072°50'00"W, 40°11'30"N 073°15'00"W
- 25** 40°20'00"N 072°50'00"W, 40°20'00"N 072°30'00"W
40°00'00"N 072°30'00"W, 40°00'00"N 072°50'00"W
- 26** 40°20'00"N 072°30'00"W, 40°20'00"N 072°10'00"W
40°00'00"N 072°10'00"W, 40°00'00"N 072°30'00"W
- 27** 40°00'00"N 072°50'00"W, 40°00'00"N 072°30'00"W
39°40'00"N 072°30'00"W, 39°54'00"N 072°50'00"W
- 28** 40°00'00"N 072°30'00"W, 40°00'00"N 072°10'00"W
39°26'00"N 072°10'00"W, 39°40'00"N 072°30'00"W

SURFACE AREA GRID COORDINATES FOR ATLANTIC CITY OPERATING AREA

<u>OPAREA Coordinator</u>	<u>Scheduling Agency</u>	<u>VDS Coordinator</u>	<u>SEAC</u>
FACSFAC	FACSFAC	FACSFAC	COMSUBLANT
VACAPES	VACAPES	VACAPES	



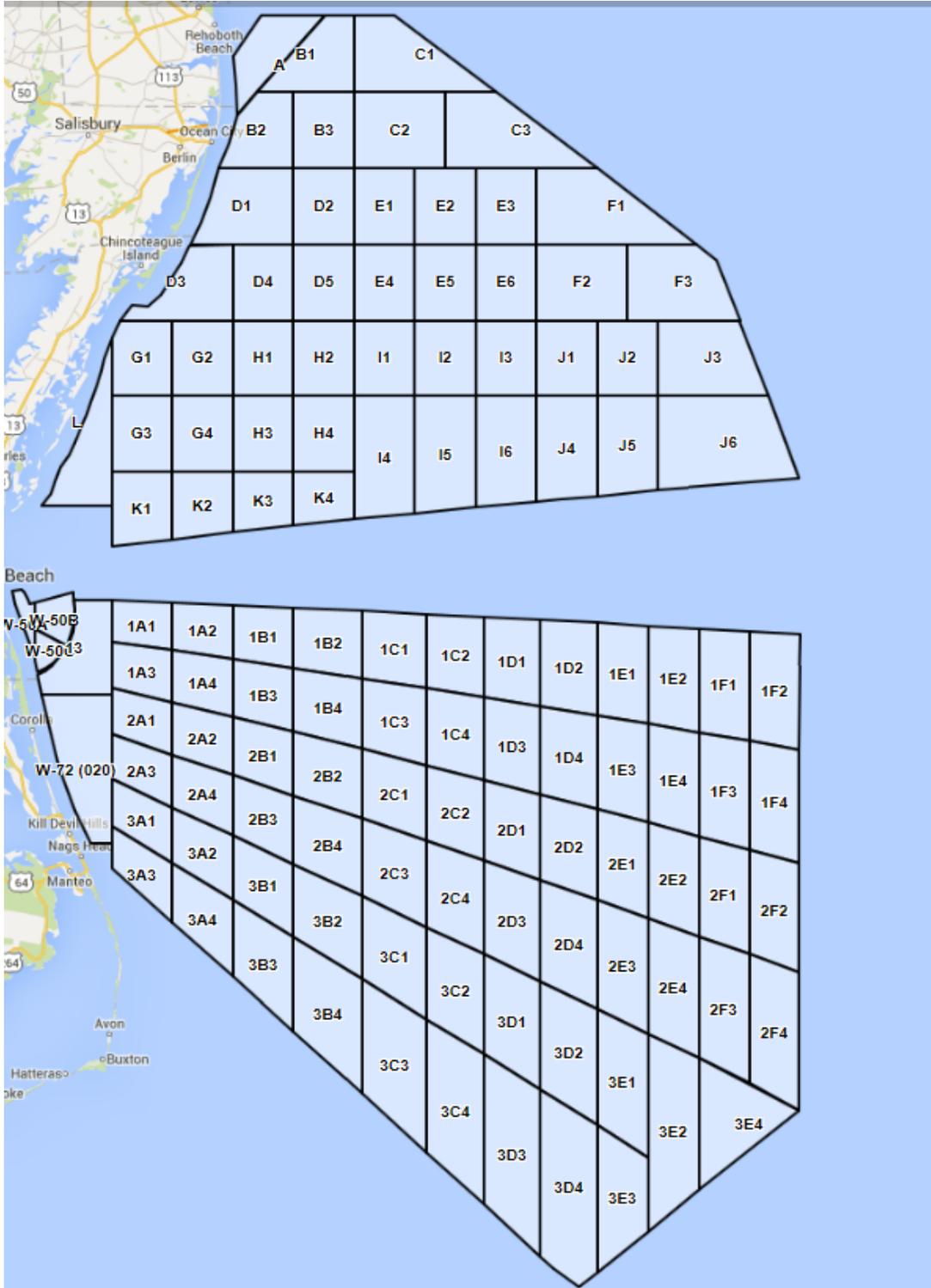
- 01** 39°09'00"N 074°37'00"W
THEN 3 NM FROM AND PARALLEL TO THE SHORELINE TO
39°54'00"N 074°01'00"W, 40°00'00"N
073°52'00"W, 40°00'00"N 073°37'00"W, 39°52'00"N
073°29'00"W, 39°44'00"N 073°41'00"W to origin
- 02** 39°44'00"N 073°41'00"W, 39°44'00"N 073°17'00"W
39°43'47"N 073°16'30"W, 39°33'30"N 073°33'15"W
- 03** 39°43'47"N 073°16'30"W, 39°41'00"N 073°10'00"W
39°23'40"N 072°57'20"W, 39°11'20"N 073°17'00"W
39°33'30"N 073°33'15"W to origin
- 04** 39°23'40"N 072°57'20"W, 39°01'30"N 072°41'30"W
38°49'40"N 073°01'00"W, 39°11'20"N 073°17'00"W
- 05** 39°01'30"N 072°41'30"W, 38°46'00"N 072°30'00"W
38°26'00"N 072°44'00"W, 38°49'40"N 073°01'00"W

15 Sep 15

- 06** 39°44'00"N 073°41'00"W, 39°33'30"N 073°33'15"W
39°21'30"N 073°52'50"W, 39°32'00"N 074°00'30"W
- 07** 39°33'30"N 073°33'15"W, 39°11'20"N 073°17'00"W
38°59'40"N 073°36'20"W, 39°21'30"N 073°52'50"W
- 08** 39°11'20"N 073°17'00"W, 38°49'40"N 073°01'00"W
38°37'50"N 073°20'15"W, 38°59'40"N 073°36'20"W
- 09** 38°49'40"N 073°01'00"W, 38°26'00"N 072°44'00"W
38°20'00"N 072°48'00"W, 38°35'15"N 073°24'20"W
- 10** 39°32'00"N 074°00'30"W, 39°21'30"N 073°52'50"W
39°09'50"N 074°11'30"W, 39°20'00"N 074°19'00"W
- 11** 39°21'30"N 073°52'50"W, 38°59'40"N 073°36'20"W
38°48'00"N 073°55'15"W, 39°09'50"N 074°11'30"W
- 12** 38°59'40"N 073°36'20"W, 38°37'50"N 073°20'15"W
38°35'15"N 073°24'20"W, 38°48'00"N 073°55'15"W
- 13** 39°20'00"N 074°19'00"W, 39°09'50"N 074°11'30"W
39°01'14"N 074°25'00"W, 39°09'00"N 074°37'00"W
- 14** 39°09'50"N 074°11'30"W, 38°48'00"N 073°55'15"W
38°58'00"N 074°20'00"W, 39°01'14"N 074°25'00"W

SURFACE AREA GRID COORDINATES FOR VIRGINIA CAPES OPERATING AREA

<u>OPAREA Coordinator</u>	<u>Scheduling Agency</u>	<u>VDS Coordinator</u>	<u>SEAC</u>
FACSFAC	FACSFAC	FACSFAC	COMSUBLANT
VACAPES	VACAPES	VACAPES	



A 38°45'00"N 074°37'00"W, 38°30'00"N 074°53'55"W
 38°25'30"N 074°59'00"W
 THEN 3NM FROM AND PARALLEL TO THE SHORELINE TO
 38°37'00"N 075°00'00"W, 38°45'00"N 074°52'59"W

15 Sep 15

- B1** 38°45'00"N 074°37'00"W, 38°45'00"N 074°30'00"W
38°30'00"N 074°30'00"W, 38°30'00"N 074°53'55"W
- B2** 38°30'00"N 074°53'55"W, 38°30'00"N 074°45'00"W
38°15'00"N 074°45'00"W, 38°15'00"N 075°03'30"
THEN 3NM FROM AND PARALLEL TO THE SHORELINE TO
- B3** 38°25'21"N 074°59'00"W, 38°30'00"N 074°55'00"W
38°30'00"N 074°45'00"W, 38°30'00"N 074°30'00"W
38°15'00"N 074°30'00"W, 38°15'00"N 074°45'00"W
- C1** 38°45'00"N 074°30'00"W, 38°45'00"N 074°20'00"W
38°30'00"N 073°55'00"W, 38°30'00"N 074°30'00"W
- C2** 38°30'00"N 074°30'00"W, 38°30'00"N 074°07'30"W
38°15'00"N 074°07'30"W, 38°15'00"N 074°15'00"W
38°15'00"N 074°30'00"W
- C3** 38°30'00"N 074°07'30"W, 38°30'00"N 073°55'00"W
38°15'00"N 073°30'00"W, 38°15'00"N 073°45'00"W
38°15'00"N 074°00'00"W, 38°15'00"N 074°07'30"W
- D1** 38°15'00"N 075°03'30"W, 38°15'00"N 075°45'00"W
38°00'00"N 074°45'00"W, 38°00'00"N 075°00'00"W
38°00'00"N 075°11'20"W
THEN 3NM FROM AND PARALLEL TO SHORELINE TO ORIGIN
- D2** 38°15'00"N 074°45'00"W, 38°15'00"N 074°30'00"W
38°00'00"N 074°30'00"W, 38°00'00"N 074°45'00"W
- D3** 38°00'00"N 075°11'20"W, 38°00'00"N 075°00'00"W
37°45'00"N 075°00'00"W, 37°45'00"N 075°28'30"W
THEN 3NM FROM AND PARALLEL TO SHORELINE TO ORIGIN
- D4** 38°00'00"N 075°00'00"W, 38°00'00"N 074°45'00"W
37°45'00"N 074°45'00"W, 37°45'00"N 075°00'00"W
- D5** 38°00'00"N 074°45'00"W, 38°00'00"N 074°30'00"W
37°45'00"N 074°30'00"W, 37°45'00"N 074°45'00"W
- E1** 38°15'00"N 074°30'00"W, 38°15'00"N 074°15'00"W
38°00'00"N 074°15'00"W, 38°00'00"N 074°30'00"W
- E2** 38°15'00"N 074°15'00"W, 38°15'00"N 074°07'30"W
38°15'00"N 074°00'00"W, 38°00'00"N 074°00'00"W
38°00'00"N 074°15'00"W
- E3** 38°15'00"N 074°00'00"W, 38°15'00"N 073°45'00"W
38°00'00"N 073°45'00"W, 38°00'00"N 074°00'00"W
- E4** 38°00'00"N 074°30'00"W, 38°00'00"N 074°15'00"W
37°45'00"N 074°15'00"W, 37°45'00"N 074°30'00"W
- E5** 38°00'00"N 074°15'00"W, 38°00'00"N 074°00'00"W
37°45'00"N 074°00'00"W, 37°45'00"N 074°15'00"W
- E6** 38°00'00"N 074°00'00"W, 38°00'00"N 073°45'00"W
37°45'00"N 073°45'00"W, 37°45'00"N 074°00'00"W

15 Sep 15

- F1** 38°15'00"N 073°45'00"W, 38°15'00"N 073°30'00"W
38°00'00"N 073°05'25"W, 38°00'00"N 073°22'30"W
38°00'00"N 073°45'00"W
- F2** 38°00'00"N 073°45'00"W, 38°00'00"N 073°22'30"W
37°45'00"N 073°22'30"W, 37°45'00"N 073°30'00"W
37°45'00"N 073°39'00"W, 37°45'00"N 073°45'00"W
- F3** 38°00'00"N 073°22'30"W, 38°00'00"N 073°05'25"W
37°57'00"N 073°00'30"W, 37°45'00"N 072°54'49"W
37°45'00"N 073°15'00"W, 37°45'00"N 073°22'30"W
- G1** 37°45'00"N 075°28'00"W, 37°45'00"N 075°15'00"W
37°30'00"N 075°15'00"W, 37°30'00"N 075°30'00"W
37°41'28"N 075°30'00"W
THEN 3NM FROM AND PARALLEL TO THE SHORELINE
- G2** 37°45'00"N 075°15'00"W, 37°45'00"N 075°00'00"W
37°30'00"N 075°00'00"W, 37°30'00"N 075°15'00"W
- G3** 37°30'00"N 075°30'00"W, 37°30'00"N 075°15'00"W
37°15'00"N 075°15'00"W, 37°15'00"N 075°30'00"W
- G4** 37°30'00"N 075°15'00"W, 37°30'00"N 075°00'00"W
37°15'00"N 075°00'00"W, 37°15'00"N 075°15'00"W
- H1** 37°45'00"N 075°00'00"W, 37°45'00"N 074°45'00"W
37°30'00"N 074°45'00"W, 37°30'00"N 075°00'00"W
- H2** 37°45'00"N 074°45'00"W, 37°45'00"N 074°30'00"W
37°30'00"N 074°30'00"W, 37°30'00"N 074°45'00"W
- H3** 37°30'00"N 075°00'00"W, 37°30'00"N 074°45'00"W
37°15'00"N 074°45'00"W, 37°15'00"N 075°00'00"W
- H4** 37°30'00"N 074°45'00"W, 37°30'00"N 074°30'00"W
37°15'00"N 074°30'00"W, 37°15'00"N 074°45'00"W
- I1** 37°45'00"N 074°30'00"W, 37°45'00"N 074°15'00"W
37°30'00"N 074°15'00"W, 37°30'00"N 074°30'00"W
- I2** 37°45'00"N 074°15'00"W, 37°45'00"N 074°00'00"W
37°30'00"N 074°00'00"W, 37°30'00"N 074°15'00"W
- I3** 37°45'00"N 074°00'00"W, 37°45'00"N 073°45'00"W
37°30'00"N 073°45'00"W, 37°30'00"N 074°00'00"W
- I4** 37°30'00"N 074°30'00"W, 37°30'00"N 074°15'00"W
37°06'30"N 074°15'00"W, 37°05'19"N 074°30'00"W
- I5** 37°30'00"N 074°15'00"W, 37°30'00"N 074°00'00"W
37°07'45"N 074°00'00"W, 37°06'30"N 074°15'00"W
- I6** 37°30'00"N 074°00'00"W, 37°30'00"N 073°45'00"W
37°08'57"N 073°45'00"W, 37°07'45"N 074°00'00"W
- J1** 37°45'00"N 073°45'00"W, 37°45'00"N 073°30'00"W
37°30'00"N 073°30'00"W, 37°30'00"N 073°45'00"W
- J2** 37°45'00"N 073°30'00"W, 37°45'00"N 073°15'00"W
37°30'00"N 073°15'00"W, 37°30'00"N 073°30'00"W
- J3** 37°45'00"N 073°15'00"W, 37°45'00"N 072°54'49"W

- J4** 37°30'00"N 072°47'45"W, 37°30'00"N 073°15'00"W
 37°30'00"N 073°45'00"W, 37°30'00"N 073°30'00"W
 37°10'00"N 073°30'00"W, 37°09'18"N 073°39'00"W
 37°08'57"N 073°45'00"W
- J5** 37°30'00"N 073°30'00"W, 37°30'00"N 073°15'00"W
 37°11'10"N 073°15'00"W, 37°10'00"N 073°30'00"W
- J6** 37°30'00"N 073°15'00"W, 37°30'00"N 072°47'45"W
 37°13'39"N 072°40'00"W, 37°11'10"N 073°15'00"W
- K1** 37°15'00"N 075°30'00"W, 37°15'00"N 075°15'00"W
 37°01'20"N 075°15'00"W, 37°00'00"N 075°30'00"W
- K2** 37°15'00"N 075°15'00"W, 37°15'00"N 075°00'00"W
 37°02'40"N 075°00'00"W, 37°01'20"N 075°15'00"W
- K3** 37°15'00"N 075°00'00"W, 37°15'00"N 074°45'00"W
 37°04'00"N 074°45'00"W, 37°02'40"N 075°00'00"W
- K4** 37°15'00"N 074°45'00"W, 37°15'00"N 074°30'00"W
 37°05'19"N 074°30'00"W, 37°04'00"N 074°45'00"W
- L** 37°08'00"N 075°30'00"W, 37°08'00"N 075°47'15"W
 THEN 3NM FROM AND PARALLEL TO THE SHORELINE
 37°41'28"N 075°30'00"W, 37°30'00"N 075°30'00"W
 37°15'00"N 075°30'00"W
- 1A1** 36°49'01"N 075°30'00"W, 36°48'33"N 075°15'00"W
 36°39'00"N 075°15'00"W, 36°40'45"N 075°30'00"W
- 1A2** 36°48'33"N 075°15'00"W, 36°48'01"N 075°00'00"W
 36°37'13"N 075°00'00"W, 36°39'00"N 075°15'00"W
- 1A3** 36°40'45"N 075°30'00"W, 36°39'00"N 075°15'00"W
 36°28'33"N 075°15'00"W, 36°31'30"N 075°30'00"W
- 1A4** 36°39'00"N 075°15'00"W, 36°37'13"N 075°00'00"W
 36°25'33"N 075°00'00"W, 36°28'33"N 075°15'00"W
- 1B1** 36°48'01"N 075°00'00"W, 36°47'33"N 074°45'00"W
 36°35'24"N 074°45'00"W, 36°37'13"N 075°00'00"W
- 1B2** 36°47'33"N 074°45'00"W, 36°46'55"N 074°28'00"W
 36°33'17"N 074°28'00"W, 36°35'24"N 074°45'00"W
- 1B3** 36°37'13"N 075°00'00"W, 36°35'24"N 074°45'00"W
 36°22'31"N 074°45'00"W, 36°25'33"N 075°00'00"W
- 1B4** 36°35'24"N 074°45'00"W, 36°33'17"N 074°28'00"W
 36°19'03"N 074°28'00"W, 36°22'31"N 074°45'00"W
- 1C1** 36°46'55"N 074°28'00"W, 36°46'18"N 074°12'00"W
 36°31'16"N 074°12'00"W, 36°33'17"N 074°28'00"W
- 1C2** 36°46'18"N 074°12'00"W, 36°45'43"N 073°58'00"W
 36°29'29"N 073°58'00"W, 36°31'16"N 074°12'00"W
- 1C3** 36°33'17"N 074°28'00"W, 36°31'16"N 074°12'00"W

1C4 36°15'44"N 074°12'00"W, 36°19'03"N 074°28'00"W
 36°31'16"N 074°12'00"W, 36°29'29"N 073°58'00"W
 36°12'48"N 073°58'00"W, 36°15'44"N 074°12'00"W

1D1 36°45'43"N 073°58'00"W, 36°45'07"N 073°44'00"W
 36°27'39"N 073°44'00"W, 36°29'29"N 073°58'00"W

1D2 36°45'07"N 073°44'00"W, 36°44'29"N 073°30'00"W
 36°25'48"N 073°30'00"W, 36°27'39"N 073°44'00"W

1D3 36°29'29"N 073°58'00"W, 36°27'39"N 073°44'00"W
 36°09'51"N 073°44'00"W, 36°12'48"N 073°58'00"W

1D4 36°27'39"N 073°44'00"W, 36°25'48"N 073°30'00"W
 36°06'51"N 073°30'00"W, 36°09'51"N 073°44'00"W

1E1 36°44'29"N 073°30'00"W, 36°43'54"N 073°17'30"W
 36°24'08"N 073°17'30"W, 36°25'48"N 073°30'00"W

1E2 36°43'54"N 073°17'30"W, 36°43'17"N 073°05'00"W
 36°22'25"N 073°05'00"W, 36°24'08"N 073°17'30"W

1E3 36°25'48"N 073°30'00"W, 36°24'08"N 073°17'30"W
 36°04'09"N 073°17'30"W, 36°06'51"N 073°30'00"W

1E4 36°24'08"N 073°17'30"W, 36°22'25"N 073°05'00"W
 36°01'25"N 073°05'00"W, 36°04'09"N 073°17'30"W

1F1 36°43'17"N 073°05'00"W, 36°42'39"N 072°52'30"W
 36°20'42"N 072°52'30"W, 36°22'25"N 073°05'00"W

1F2 36°42'39"N 072°52'30"W, 36°42'09"N 072°39'58"W
 36°18'57"N 072°40'00"W, 36°20'42"N 072°52'30"W

1F3 36°22'25"N 073°05'00"W, 36°20'42"N 072°52'30"W
 35°58'40"N 072°52'30"W, 36°01'25"N 073°05'00"W

1F4 36°20'42"N 072°52'30"W, 36°18'57"N 072°40'00"W
 35°55'54"N 072°40'00"W, 35°58'40"N 072°52'30"W

2A1 36°31'30"N 075°30'00"W, 36°28'33"N 075°15'00"W
 36°17'56"N 075°15'00"W, 36°22'00"N 075°30'00"W

2A2 36°28'33"N 075°15'00"W, 36°25'33"N 075°00'00"W
 36°13'51"N 075°00'00"W, 36°17'56"N 075°15'00"W

2A3 36°22'00"N 075°30'00"W, 36°17'56"N 075°15'00"W
 36°07'20"N 075°15'00"W, 36°13'00"N 075°30'00"W

2A4 36°17'56"N 075°15'00"W, 36°13'51"N 075°00'00"W
 36°01'37"N 075°00'00"W, 36°07'20"N 075°15'00"W

2B1 36°25'33"N 075°00'00"W, 36°22'31"N 074°45'00"W
 36°09'43"N 074°45'00"W, 36°13'51"N 075°00'00"W

2B2 36°22'31"N 074°45'00"W, 36°19'03"N 074°28'00"W
 36°04'59"N 074°28'00"W, 36°09'43"N 074°45'00"W

2B3 36°13'51"N 075°00'00"W, 36°09'43"N 074°45'00"W

2B4 35°55'51"N 074°45'00"W, 36°01'37"N 075°00'00"W
 36°09'43"N 074°45'00"W, 36°04'59"N 074°28'00"W
 35°49'16"N 074°28'00"W, 35°55'51"N 074°45'00"W

2C1 36°19'03"N 074°28'00"W, 36°15'44"N 074°12'00"W
 36°00'29"N 074°12'00"W, 36°04'59"N 074°28'00"W

2C2 36°15'44"N 074°12'00"W, 36°12'48"N 073°58'00"W
 35°56'30"N 073°58'00"W, 36°00'29"N 074°12'00"W

2C3 36°04'59"N 074°28'00"W, 36°00'29"N 074°12'00"W
 35°43'01"N 074°12'00"W, 35°49'16"N 074°28'00"W

2C4 36°00'29"N 074°12'00"W, 35°56'30"N 073°58'00"W
 35°37'30"N 073°58'00"W, 35°43'01"N 074°12'00"W

2D1 36°12'48"N 073°58'00"W, 36°09'51"N 073°44'00"W
 35°52'30"N 073°44'00"W, 35°56'30"N 073°58'00"W

2D2 36°09'51"N 073°44'00"W, 36°06'51"N 073°30'00"W
 35°48'27"N 073°30'00"W, 35°52'30"N 073°44'00"W

2D3 35°56'30"N 073°58'00"W, 35°52'30"N 073°44'00"W
 35°31'56"N 073°44'00"W, 35°37'30"N 073°58'00"W

2D4 35°52'30"N 073°44'00"W, 35°48'27"N 073°30'00"W
 35°26'20"N 073°30'00"W, 35°31'56"N 073°44'00"W

2E1 36°06'51"N 073°30'00"W, 36°04'09"N 073°10'730W
 35°44'49"N 073°17'30"W, 35°48'27"N 073°30'00"W

2E2 36°04'09"N 073°17'30"W, 36°01'25"N 073°05'00"W
 35°41'08"N 073°05'00"W, 35°44'49"N 073°17'30"W

2E3 35°48'27"N 073°30'00"W, 35°44'49"N 073°17'30"W
 35°21'18"N 073°17'30"W, 35°26'20"N 073°30'00"W

2E4 35°44'49"N 073°17'30"W, 35°41'08"N 073°05'00"W
 35°16'14"N 073°05'00"W, 35°21'18"N 073°17'30"W

2F1 36°01'25"N 073°05'00"W, 35°58'40"N 072°52'30"W
 35°37'27"N 072°52'30"W, 35°41'08"N 073°05'00"W

2F2 35°58'40"N 072°52'30"W, 35°55'54"N 072°40'00"W
 35°33'43"N 072°40'00"W, 35°37'27"N 072°52'30"W

2F3 35°41'08"N 073°05'00"W, 35°37'27"N 072°52'30"W
 35°11'08"N 072°52'30"W, 35°16'14"N 073°05'00"W

2F4 35°37'27"N 072°52'30"W, 35°33'43"N 072°40'00"W
 35°05'35"N 072°40'00"W, 35°11'08"N 072°52'30"W

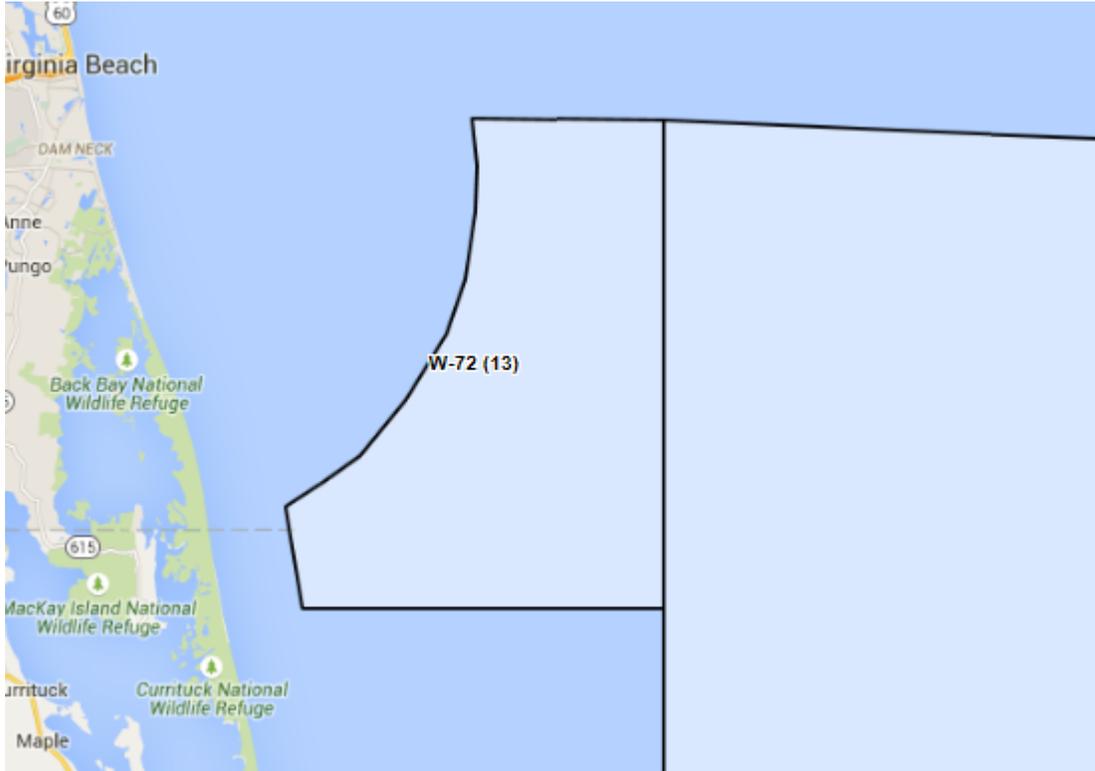
3A1 36°13'00"N 075°30'00"W, 36°07'20"N 075°15'00"W
 35°56'00"N 075°15'00"W, 36°03'25"N 075°30'00"W

3A2 36°07'20"N 075°15'00"W, 36°01'37"N 075°00'00"W
 35°48'32"N 075°00'00"W, 35°56'00"N 075°15'00"W

3A3 36°03'25"N 075°30'00"W, 35°56'00"N 075°15'00"W

- 3A4** 35°43'58"N 075°15'00"W, 35°54'51"N 075°30'00"W
 35°56'00"N 075°15'00"W, 35°48'32"N 075°00'00"W
 35°32'56"N 075°00'00"W, 35°43'25"N 075°14'1"5W
 35°43'58"N 075°15'00"W
- 3B1** 36°01'37"N 075°00'00"W, 35°55'51"N 074°45'00"W
 35°41'01"N 074°45'00"W, 35°48'32"N 075°00'00"W
- 3B2** 35°55'51"N 074°45'00"W, 35°49'16"N 074°28'00"W
 35°32'25"N 074°28'00"W, 35°41'01"N 074°45'00"W
- 3B3** 35°48'32"N 075°00'00"W, 35°41'01"N 074°45'00"W
 35°21'49"N 074°45'00"W, 35°32'56"N 075°00'00"W
- 3B4** 35°41'01"N 074°45'00"W, 35°32'25"N 074°28'00"W
 35°09'07"N 074°28'00"W, 35°21'49"N 074°45'00"W
- 3C1** 35°49'16"N 074°28'00"W, 35°43'01"N 074°12'00"W
 35°24'16"N 074°12'00"W, 35°32'25"N 074°28'00"W
- 3C2** 35°43'01"N 074°12'00"W, 35°37'30"N 073°58'00"W
 35°17'04"N 073°58'00"W, 35°24'16"N 074°12'00"W
- 3C3** 35°32'25"N 074°28'00"W, 35°24'16"N 074°12'00"W
 34°57'01"N 074°12'00"W, 35°09'07"N 074°28'00"W
- 3C4** 35°24'16"N 074°12'00"W, 35°17'04"N 073°58'00"W
 34°46'21"N 073°58'00"W, 34°57'01"N 074°12'00"W
- 3D1** 35°37'30"N 073°58'00"W, 35°31'56"N 073°44'00"W
 35°09'50"N 073°44'00"W, 35°17'04"N 073°58'00"W
- 3D2** 35°31'56"N 073°44'00"W, 35°26'20"N 073°30'00"W
 35°02'32"N 073°30'00"W, 35°09'50"N 073°44'00"W
- 3D3** 35°17'04"N 073°58'00"W, 35°09'50"N 073°44'00"W
 34°35'37"N 073°44'00"W, 34°46'21"N 073°58'00"W
- 3D4** 35°09'50"N 073°44'00"W, 35°02'32"N 073°30'00"W
 34°32'17"N 073°30'00"W, 34°29'17"N 073°34'23"W
 34°33'10"N 073°40'50"W, 34°35'37"N 073°44'00"W
- 3E1** 35°26'20"N 073°30'00"W, 35°21'18"N 073°17'30"W
 34°55'58"N 073°17'30"W, 35°02'32"N 073°30'00"W
- 3E2** 35°21'18"N 073°17'30"W, 35°16'14"N 073°05'00"W
 34°49'15"N 073°05'00"W, 34°40'48"N 073°17'30"W
- 3E3** 35°02'32"N 073°30'00"W, 34°55'58"N 073°17'30"W
 34°40'48"N 073°17'30"W, 34°32'17"N 073°30'00"W
- 3E4** 35°16'14"N 073°05'00"W, 35°05'35"N 072°40'00"W
 34°49'15"N 073°05'00"W
- 13** DEFINED AS THAT AREA EAST AND SOUTH OF W-50 BOUNDED BY
 THE FOLLOWING POINTS:
 36°49'00"N 075°40'00"W
 36°49'00"N 075°30'00"W, 36°30'00"N 075°30'00"W
 36°30'00"N 075°47'00"W, 36°35'00"N 075°48'00"W

36°49'00"N 075°40'00"W



SURFACE AREA GRID COORDINATES FOR CHERRY POINT OPERATING AREA

<u>OPAREA Coordinator</u>	<u>Scheduling Agency</u>	<u>VDS Coordinator</u>	<u>SEAC</u>
FACSFAC	FACSFAC	FACSFAC	COMSUBLANT
VACAPES	VACAPES	VACAPES	



- 01** 34°50'00"N 076°15'00"W
THEN 3NM FROM AND PARALLEL TO THE SHORELINE TO
35°30'00"N 075°25'00"W, 35°13'00"N
075°05'00"W, 34°40'00"N 076°04'00"W
- 02** 34°57'00"N 075°34'00"W, 34°32'00"N 075°05'00"W
34°13'00"N 075°32'00"W, 34°40'00"N 076°04'00"W
- 03** 35°13'00"N 075°05'00"W, 34°50'10"N 074°38'40"W

15 Sep 15

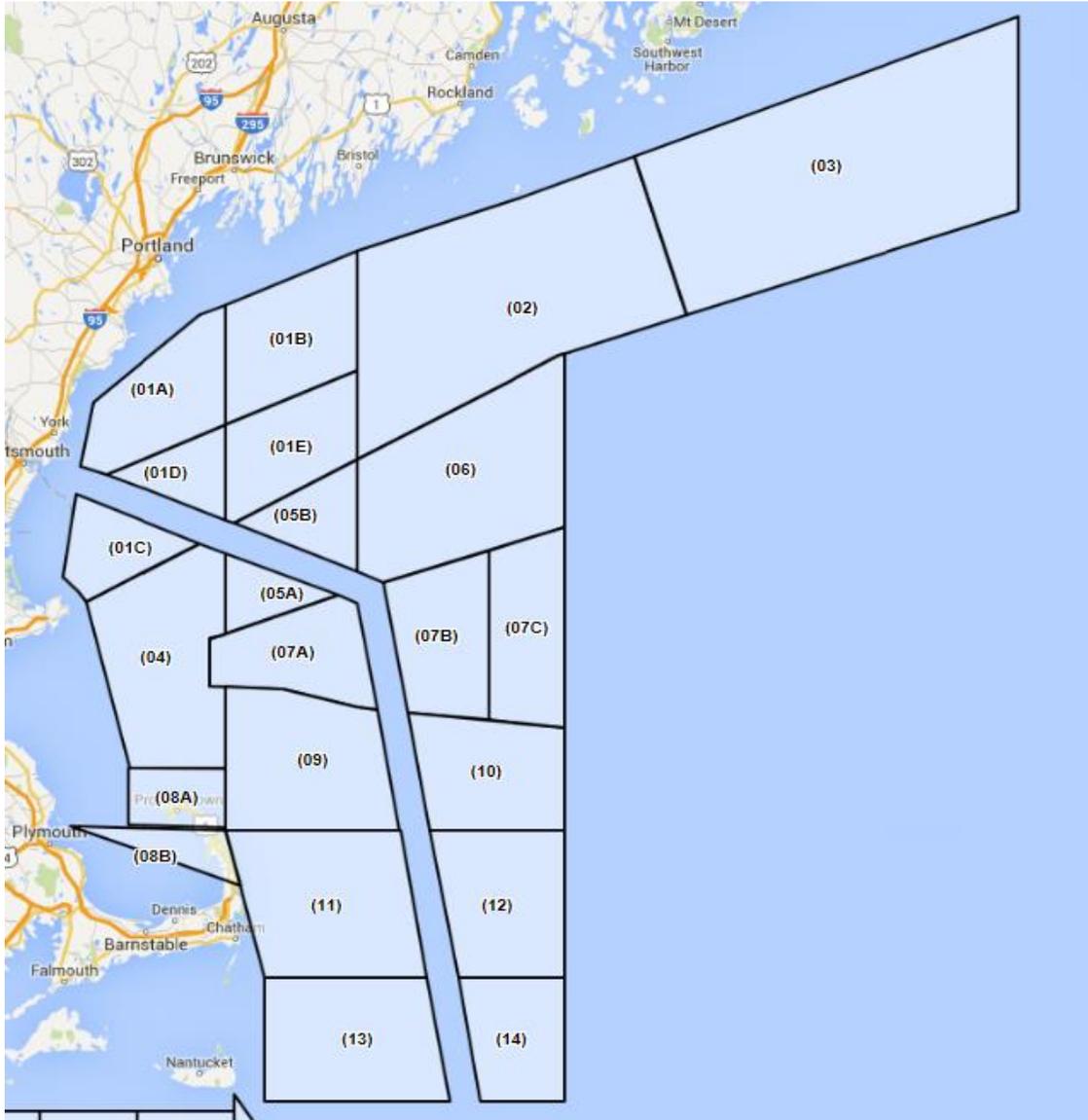
- 34°32'00"N 075°05'00"W, 34°57'00"N 075°34'00"W
- 04** 34°32'00"N 075°05'00"W, 34°15'00"N 074°46'30"W
33°55'15"N 075°13'30"W, 34°00'30"N 075°19'24"W
34°13'00"N 075°32'00"W
- 05** 34°50'10"N 074°38'40"W, 34°34'10"N 074°20'05"W
34°15'00"N 074°46'30"W, 34°32'00"N 075°05'00"W
- 06** 34°15'00"N 074°46'30"W, 33°55'15"N 074°24'15"W
33°36'00"N 074°52'00"W, 33°55'16"N 075°13'38"W
- 07** 34°34'10"N 074°20'05"W, 34°14'00"N 073°57'00"W
33°55'15"N 074°24'15"W, 34°15'00"N 074°46'30"W
- 08** 34°50'00"N 076°15'00"W, 34°40'00"N 076°04'00"W
34°17'00"N 076°45'00"W, 34°37'45"N 076°56'00"W
THEN 3NM FROM AND PARALLEL TO THE SHORELINE
- 09** 34°28'06"N 076°25'06"W, 34°04'30"N 076°05'30"W
33°49'00"N 076°30'00"W, 34°17'00"N 076°40'05"W
- 10** 34°40'00"N 076°04'00"W, 34°20'15"N 075°40'36"W
34°04'30"N 076°05'30"W, 34°28'06"N 076°25'06"W
- 11** 34°04'30"N 076°05'30"W, 33°40'30"N 075°46'30"W
33°20'00"N 076°14'41"W, 33°49'00"N 076°30'00"W
- 12** 34°20'15"N 075°40'36"W, 34°13'00"N 075°32'00"W
34°00'30"N 075°19'24"W, 33°40'30"N 075°46'30"W
34°04'30"N 076°05'30"W
- 13** 33°40'30"N 075°46'30"W, 33°13'00"N 075°24'30"W
32°50'00"N 075°57'00"W, 33°20'00"N 076°14'41"W
- 14** 34°00'30"N 075°19'24"W, 33°36'00"N 074°52'00"W
33°13'00"N 075°24'30"W, 33°40'30"N 075°46'30"W
- 15** 34°37'45"N 076°56'00"W, 34°17'00"N 076°45'00"W
33°50'45"N 077°30'30"W, 34°23'30"N 077°30'00"W
THEN 3NM FROM AND PARALLEL TO THE SHORELINE
- 16** 34°04'15"N 077°07'06"W, 33°33'00"N 076°55'00"W
33°10'00"N 077°31'00"W, 33°50'45"N 077°30'30"W
- 17** 34°17'00"N 076°45'00"W, 33°49'00"N 076°30'00"W
33°33'00"N 076°55'00"W, 34°04'15"N 077°07'06"W

15 Sep 15

- 18** 33°33'00"N 076°55'00"W, 33°00'00"N 076°42'00"W
33°00'00"N 077°29'00"W, 33°10'00"N 077°31'00"W
- 19** 33°49'00"N 076°30'00"W, 33°20'00"N 076°14'41"W
33°00'00"N 076°42'00"W, 33°33'00"N 076°55'00"W
- 20** 33°00'00"N 076°42'00"W, 32°39'00"N 076°42'00"W
32°39'00"N 077°24'15"W, 33°00'00"N 077°29'00"W
- 21** 33°20'00"N 076°14'41"W, 32°50'00"N 075°57'00"W
32°39'00"N 076°12'00"W, 32°39'00"N 076°42'W
33°00'00"N 076°42'00"W
- 22** 32°39'00"N 077°24'15"W, 32°39'00"N 076°50'00"W
32°12'15"N 076°50'00"W, 32°20'00"N 077°20'00"W
- 23** 32°39'00"N 076°50'00"W, 32°39'00"N 076°12'00"W
32°12'00"N 076°49'00"W, 32°12'15"N 076°50'00"W

SURFACE AREA GRID COORDINATES FOR BOSTON OPERATING AREA

<u>OPAREA Coordinator</u>	<u>Scheduling Agency</u>	<u>VDS Coordinator</u>	<u>SEAC</u>
FACSFAC	FACSFAC	FACSFAC	COMSUBLANT
VACAPES	VACAPES	VACAPES	



- 1A** 43°04'00"N 070°33'00"W, 43°15'00"N 070°30'00"W
43°30'00"N 070°06'00"W, 43°31'30"N 070°00'00"W
43°11'00"N 070°00'00"W, 43°02'30"N 070°27'00"W
- 1B** 43°31'30"N 070°00'00"W, 43°41'00"N 069°30'00"W
43°20'30"N 069°30'00"W, 43°11'00"N 070°00'00"W

15 Sep 15

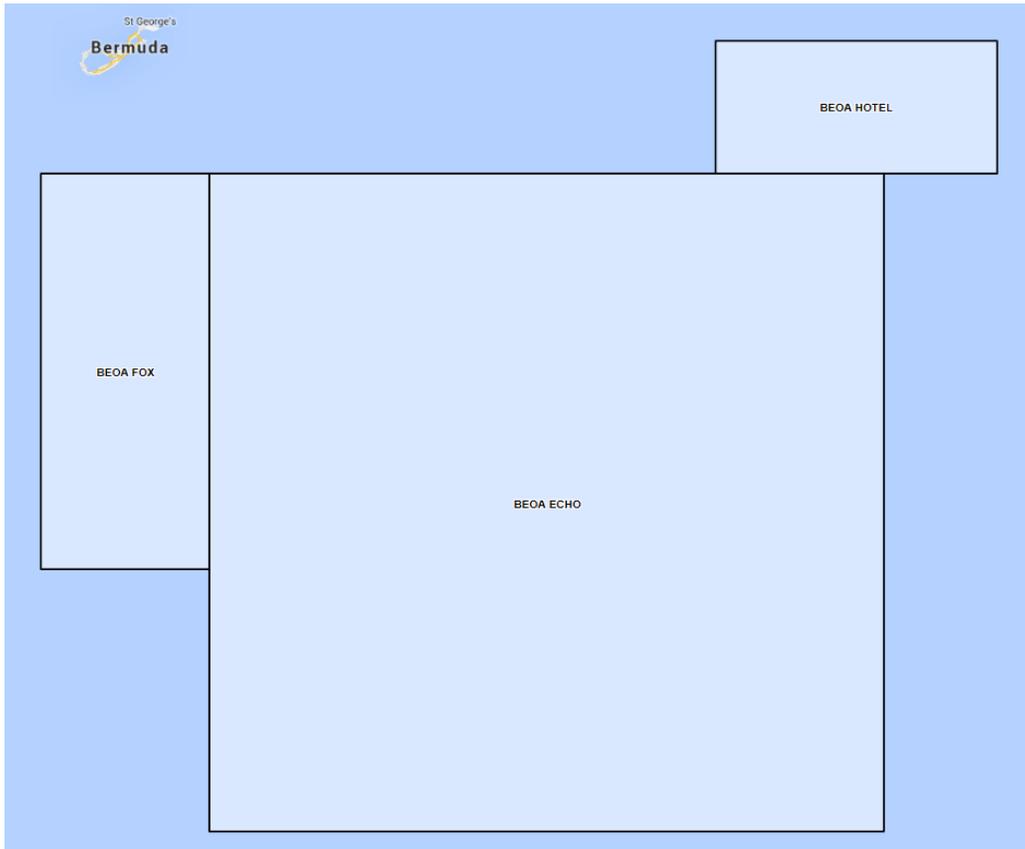
- 1C** 42°40'15"N 070°31'30"W
THEN 3NM FROM AND PARALLEL TO THE SHORELINE TO
42°44'30"N 070°37'00"W, 42°59'00"N
070°34'00"W, 42°50'30"N 070°06'00"W
- 1D** 43°02'50"N 070°27'00"W, 43°11'00"N 070°00'00"W
42°54'30"N 070°00'00"W
- 1E** 43°11'00"N 070°00'00"W, 43°20'30"N 069°30'00"W
43°05'00"N 069°30'00"W, 42°54'00"N 069°58'00"W
42°54'30"N 070°00'00"W
- 2** 43°41'00"N 069°30'00"W, 43°50'00"N 068°53'00"W
43°57'15"N 068°27'00"W, 43°30'00"N 068°15'00"W
43°23'15"N 068°43'00"W, 43°23'00"N 068°44'00"W
43°05'00"N 069°30'00"W
- 3** 43°57'15"N 068°27'00"W, 44°21'00"N 067°00'00"W
43°48'00"N 067°00'00"W, 43°30'00"N 068°15'00"W
- 4** 42°40'15"N 070°31'30"W, 42°50'30"N 070°06'00"W
42°48'45"N 070°00'00"W, 42°35'00"N 070°00'00"W
42°33'35"N 070°03'45"W, 42°25'25"N 070°03'45"W
42°25'20"N 070°00'00"W, 42°11'00"N 070°00'00"W
TO SHORELINE (42°11'00"N 070°43'30"W)
THEN CW ALONG SHORELINE TO 42°39'00"N 070°35'30"W
- 5A** 42°48'45"N 070°00'00"W, 42°41'20"N 069°34'10"W
42°35'00"N 070°00'00"W
- 5B** 42°54'00"N 068°58'00"W, 43°05'00"N 069°30'00"W
42°45'30"N 069°30'00"W
- 6** 43°05'00"N 069°30'00"W, 43°23'00"N 068°44'00"W
43°23'15"N 068°43'00"W, 42°53'15"N 068°43'00"W
42°43'30"N 069°24'00"W, 42°45'30"N 069°30'00"W
- 7A** 42°33'35"N 070°03'45"W, 42°41'20"N 069°34'10"W
42°40'00"N 069°30'00"W, 42°21'30"N 069°25'30"W
42°21'40"N 069°30'00"W, 42°25'00"N 069°46'45"W
42°25'25"N 070°03'45"W
- 7B** 42°43'30"N 069°24'00"W, 42°49'15"N 069°00'00"W
42°19'30"N 069°00'00"W, 42°21'00"N 069°18'30"W
- 7C** 42°49'15"N 069°00'00"W, 42°53'15"N 068°43'00"W
42°18'00"N 068°43'00"W, 42°19'30"N 069°00'00"W

15 Sep 15

- 8A** 42°01'00"N 070°11'30"W, 42°01'00"N 070°22'00"W
42°11'00"N 070°22'00"W, 42°11'00"N 070°00'00"W
41°58'15"N 070°00'00"W THEN CCW ALONG SHORELINE
- 8B** 42°11'00"N 070°43'30"W, 42°11'00"N 070°22'00"W
42°01'00"N 070°22'00"W, 42°01'00"N 070°11'30"W
THEN CW ALONG SHORELINE
- 9** 42°25'20"N 070°00'00"W, 42°25'00"N 069°46'45"W
42°21'40"N 069°30'00"W, 42°21'30"N 069°25'30"W
42°00'00"N 069°20'15"W, 42°00'00"N 070°00'00"W
- 10** 42°21'00"N 069°18'30"W, 42°18'00"N 068°43'00"W
42°00'00"N 068°43'00"W, 42°00'00"N 069°13'30"W
- 11** 42°00'00"N 070°00'00"W, 42°00'00"N 069°20'15"W
41°34'00"N 069°14'00"W, 41°34'00"N 069°51'00"W
41°42'30"N 069°51'00"W, 41°51'00"N 069°57'00"W
THEN ALONG SHORELINE TO 41°58'15"N 070°00'00"W
- 12** 42°00'00"N 069°13'30"W, 42°00'00"N 068°43'00"W
41°34'00"N 068°43'00"W, 41°34'00"N 069°07'00"W
- 13** 41°34'00"N 069°51'00"W, 41°34'00"N 069°14'00"W
41°12'00"N 069°09'00"W, 41°12'00"N 069°51'00"W
- 14** 41°34'00"N 069°07'00"W, 41°34'00"N 068°43'00"W
41°12'00"N 068°43'00"W, 41°12'00"N 069°02'00"W

SURFACE AREA GRID COORDINATES FOR BERMUDA OPERATING AREA

<u>OPAREA Coordinator</u>	<u>Scheduling Agency</u>	<u>VDS Coordinator</u>	<u>SEAC</u>
FACSFAC VACAPES	FACSFAC VACAPES	FACSFAC VACAPES	COMSUBLANT



ECHO 32°00'00"N 064°30'00"W, 32°00'00"N 062°30'00"W
30°20'00"N 062°30'00"W, 30°20'00"N 064°30'00"W

FOXTROT 32°00'00"N 064°30'00"W, 31°00'00"N 064°30'00"W
31°00'00"N 065°00'00"W, 32°00'00"N 065°00'00"W

HOTEL 32°20'00"N 062°10'00"W, 32°00'00"N 062°10'00"W
32°00'00"N 063°00'00"W, 32°20'00"N 063°00'00"W