BY ORDER OF THE COMMANDER
SPACE LAUNCH DELTA 45

SPACE LAUNCH DELTA 45
INSTRUCTION 13-201

12 JULY 2022

Nuclear, Space, Missile, Command and Control

EASTERN RANGE AIRSPACE

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(Lt Col Brian D. Eno)

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This instruction implements AFPD 13-2, *Air Traffic Control, Airfield, Airspace and Range Management.* It provides guidance and procedures for the safe operation of all airspace operations supporting launch and other scheduled operations on the Eastern Range (ER). It applies to all participating SLD 45 units, organizations providing support aircraft, ER agencies and users. A coordinated effort is required by range and flight personnel, range users and participating staff agencies to ensure safety of operations, mission accomplishment, conservation of resources, and to prevent violations of diplomatic agreements. Aircraft providing support will operate in accordance with (IAW) pertinent technical orders, parent directives and the provisions of this instruction. All SLD 45 staff support agencies will provide any required assistance to ensure safe aircraft operations and will fulfill the provisions of this instruction and the tasking set forth in applicable Operations Directives (OD). Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Requests for waivers must be submitted to the OPR listed above for consideration and approval. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction 33-322, Records Management and Information Governance Program, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System.

SUMMARY OF CHANGES

This document has been revised to update and clarify Cape Control Military Radar Unit (MRU) duties and responsibilities, updates office symbols and publication references, includes unauthorized aircraft reporting process, clarifies new customer and aerial imagery/survey requests procedures, and corrects definitions and acronyms while consolidating unwritten local guidance into one document. There are also minor editorial changes throughout the document.

1. General.

1.1. The ER is responsible for the authorization, scheduling, control and safety of all aircraft operations on the ER, within ER Special Use Airspace (SUA) and within other airspace for military use. The ER exercises control through the 1st Range Operations Squadron Commander (1 ROPS/CC) by authority of the Commander, Space Launch Delta 45 (SLD 45/CC). Authorizing the use of MARSA (The Military Assumes Responsibility for the Separation of Aircraft) or other methods of separation is determined by Cape Control based on authority delegated by the Commander of the Space Launch Delta 45 and applies to all military, National Aeronautics and Space Administration (NASA), Federal Aviation Administration (FAA), and contract aircraft and pilots operating in active SUA or other airspace for military use. The SLD 45 is the using agency for the airspace defined herein.

1.2. Restricted and Warning Areas, as defined in DoD (Department of Defense) Flight Information Publications, are operated as outlined in that publication. When these areas are open, Air Traffic Control (ATC) is authorized to approve Instrument Flight Rules (IFR) flights without prior approval from the ER. These and other areas used for special activities and mission operations are specified in the scheduled Operations Directive (OD). Special ER areas and impact areas used during launch operations are determined and requested individually for each mission.

1.3. Range Surveillance is accomplished IAW the scheduled OD, special support instructions or remarks in the published operations schedule.

1.4. Control of mission support aircraft by SLD 45 agencies is terminated after completion of all mission requirements and release of the support aircraft.

2. Supporting Aircraft/Aircrew Operations.

2.1. Aircraft/Aircrews supporting Launch Operations will:

2.1.1. Attend the mission aircrew briefing to review mission support procedures, positions, times, call signs, assigned MODE-3 codes, operating frequencies, weather forecast and special instructions.

2.1.1.1. The mission aircrew briefing can occur in-person, virtually via a telecom, or through an email distribution. The Launch Service Provider responsible for the launch can represent the aircrews participating in a scheduled launch operation provided the LSP provides written confirmation to the Eastern Range Airspace Manager and Program Support Manager that the information contained in the brief has been provided to the participating aircrew.

2.1.2. Review all Notices to Air Missions (NOTAMs).

2.1.3. Prior to entering Restricted Airspace, ER SUA or an Altitude Reservation (ALTRV) within ER airspace, contact CAPE CONTROL on 133.8 / 264.8 and advise of intentions.

2.1.4. Squawk assigned Mode-3 code when operating in ER assigned airspace.

2.1.5. Provide CAPE CONTROL with departure time, remaining fuel on board (in hours), number of persons on board and aircraft tail number.

2.1.6. Monitor assigned frequencies and maintain radio contact with CAPE CONTROL while operating in ER assigned airspace.

2.1.7. Report any unidentified aircraft to include unidentified unmanned aircraft within ER assigned airspace to CAPE CONTROL.

2.1.8. Report Return to Base (RTB) at mission completion to CAPE CONTROL.

2.2. Aircraft/Aircrew supporting Daily Operations will:

2.2.1. Coordinate approval and receive Prior Permission Required (PPR) with 1 ROPS/DOS for operations in ER SUA.

2.2.2. Contact CAPE ADVISORY prior to entering ER SUA.

2.2.3. Maintain radio contact with CAPE ADVISORY while operating in ER SUA.

2.2.4. Report Return to Base (RTB) at mission completion to CAPE ADVISORY.

2.2.5. When Cape Advisory is not operational, aircraft shall contact Orlando Approach for entry into and departure from Eastern Range Restricted Areas. Orlando Approach is authorized to monitor aircraft in Eastern Range Restricted Areas that have received prior coordination and were issued a prior permission required (PPR) as well as emergency aircraft missions such as Police, Coast Guard, and Life-Flight medical support flights.

3. General Responsibilities.

3.1. The 1st Range Operations Squadron (1 ROPS):

3.1.1. The 1 ROPS Commander: The 1 ROPS/CC has overall responsibility for processing, coordinating and approving requests for operations, scheduling and control of all aircraft operating in ER SUA, as well as monitoring all activities within the scope of this instruction to ensure compliance with its provisions.

3.1.2. The 1 ROPS Operations Officer (1 ROPS/DO): The 1 ROPS/DO is responsible for processing, coordinating, and approving requests for operations involving aircraft on the ER.

3.1.3. Eastern Range Scheduling Office (1 ROPS/DOS):

3.1.3.1. Publishes the ER Consolidated Activity Forecast, Advanced Forecast Schedule, and SLD 45 Launch Manifest to provide operational situation awareness to Launch Service Providers (LSP's) and other ER stakeholders.

3.1.3.2. Sends Altitude Reservation (ALTRV) Approval Request (APREQ) for Launch Hazard Areas to FAA Central Altitude Reservation Facility (CARF).

3.1.3.3. Sends NOTAM APREQ to FAA Miami Air Route Traffic Control Center (ARTCC), Military Operations Specialist (MOS) and other agencies as appropriate.

3.1.3.4. Sends Notice to Mariner (NOTMAR) APREQ to National Geospatial-Intelligence Agency (NGA), Coast Guard and other agencies as appropriate.

3.1.3.5. Monitors Eastern Range Restricted Area airspace and provides traffic/safety advisories during non-launch operation periods using call sign CAPE ADVISORY.

3.1.4. Program Support Manager (PSM):

3.1.4.1. Performs as the LSP's point of contact (POC) that identifies/coordinates the program's aeronautical assets requiring ER support.

3.1.4.2. Reviews the Program Requirements Document (PRD), Operations Requirement (OR), Schedule Request and Operations Directive (OD) for aircraft requirements.

3.1.4.3. Briefs range users on the requirements of this instruction and Intended Support Plans (SPFCMAN91-710V6, *Range Safety User Requirements Manual Volume 6 – Ground and Launch Personnel, Equipment, Systems, and Material Operations Safety Requirements* or AFSPCMAN 91-710, Vol 4, *Range Safety User Requirements Manual, Airborne Flight Safety System Design, Test, and Documentation Requirements*) when they have requested aircraft support or are conducting aircraft operations.

3.1.5. Surveillance Control Officer (SCO):

3.1.5.1. Performs launch area surveillance ensuring hazard areas are clear of unauthorized boats, ships and aircraft prior to giving the Launch Area Surveillance "Go/No-Go" determination to the Mission Flight Control Officer (MFCO), Range Operations Commander (ROC) or other as required based on current hit-probability criteria per AFSPCMAN 91-710, Volume 2, *Flight Safety Requirements*, for ships/boats and for aircraft.

3.1.5.2. Conducts aircrew briefings in support of launch and aerospace operations as required.

3.1.5.3. Directs the Aerospace Control Officer (ACO) and Sea Surveillance Officer (SSO) to have the Range Safety surveillance aircraft leave their Mission Support Position (MSP) to re-scan the launch danger zone during countdown holds as required.

3.1.5.4. Authorizes alternate MSPs for support aircraft with assistance from the Surveillance Risk Analyst (SRA) as required.

3.1.5.5. Directs the ACO and MRU to release support aircraft and SUA IAW SLD 45/SEL Safety Data Products or when authorized by the MFCO/ROC.

3.1.5.6. Directs the ACO and MRU to issue breakaway instructions to supporting aircraft when directed by the MFCO/ROC .

3.1.5.7. Informs the ACO and MRU when the launch Pad is 'safe' once a scrub has been determined to enable the quick and efficient return of airspace to the FAA and other appropriate agencies.

3.1.5.8. Informs the Surveillance Room of current T-0, any changes to T-0 and notification of a Catastrophic or non-nominal event.

3.1.5.9. Informs the ACO and MRU of Stage I landing assured on Drone Ship or Landing Zone.

3.1.6. Aerospace Control Officer (ACO):

3.1.6.1. ACO Call sign is CAPE LEADER.

3.1.6.2. Focal point for the coordination of all aircraft support requirements documented in the Program Requirements Document (PRD), Operations Requirements (OR) and OD. The ACO will review these documents for aircraft requirements.

3.1.6.3. Schedules aircrew briefings in support of launch and aerospace operations as required and conducts aircrew briefings as delegated by SCO.

3.1.6.4. Monitors SUA, notifies SCO of any violations of the airspace and/or the aircraft hit-probability contour and coordinates with MRU Controller to ensure that intruder aircraft departs ER airspace and the aircraft flight path is tracked and reported to FAA.

3.1.6.5. Monitors support aircraft status including:

3.1.6.5.1. Mode-3 codes, aircraft track status and mission frequencies.

3.1.6.5.2. Coordinating support aircraft actions with other positions and agencies and reporting status to the SCO.

3.1.6.5.3. Ensuring all support aircraft are clear of the support aircraft hit-probability contour and are at, or will be at, their assigned MSP prior to T-0.

3.1.6.5.4. Coordinates any requests for, or assignment of, alternate MSP(s) with the SCO. Unless previously evaluated, SLD 45/SEL must assess risks to support aircraft at alternate MSP(s) prior to SCO approval.

3.1.6.6. Performs contingency notifications to the MRU Controller and the support aircraft to include severe weather, holds/hold extensions, countdown recycles, new T-0s, hangfire/misfire events and anomalous vehicle flight. Coordinates or relays notifications to support aircraft through other support positions as required.

3.1.6.7. Performs terminal countdown notifications to the support aircraft. **Note:** ACO shall not communicate terminal countdown on MRU frequencies.

3.1.6.8. Performs countdown status, contingency, and mission completion notifications to Patrick Tower to de-conflict aircraft operations and launch vehicle tracking operations at PSFB based on Flight Termination System or Autonomous Flight Safety System vehicles.

3.1.6.9. Verifies with the MRU Controller that ATC contingency notifications with Miami ARTCC are made.

3.1.6.10. Verifies balloon release notifications to support aircraft are accomplished.

3.1.6.11. Upon authorization by the SCO, the ACO directs the MRU Controller to release airspace and support aircraft after a launch or scrub. Airspace will normally be released IAW instruction provided in the SLD 45/SEL Safety Data Products for each launch or hazardous operation. Notification of launch time, if releasing airspace, should be provided as soon as possible. However, if not releasing airspace, notification should be made within four (4) minutes of launch with the reason for delay. Airspace may be held longer if necessary to safe the missile (launch vehicle).

3.1.6.12. When directed by the SCO, the ACO directs the MRU Controller to issue breakaway instructions to support aircraft.

3.1.7. Sea Surveillance Officer (SSO):

3.1.7.1. SSO Call sign is VARIETY ONE.

3.1.7.2. Provides supporting aircraft units with the sea surveillance requirements for the launch danger zone.

3.1.7.3. Monitors and controls movement and positions of Range Safety surveillance aircraft.

3.1.7.4. Relays contingency countdown notifications to Range Safety surveillance aircraft for the ACO as required.

3.2. Military Radar Unit (MRU) Call Sign, CAPE CONTROL.

3.2.1. MRU Shall;

3.2.2. Provide command and control instructions and monitor mission support aircraft during launch operations to ensure the safe, expeditious and timely movement of participating aircraft.

3.2.3. Assist participating aircraft in avoiding observed aircraft by issuance of traffic advisories and/or control instructions and altitude assignments.

3.2.4. Coordinate aircraft movement with SCO/ACO/SSO, as required.

3.2.5. Inform ACO when support aircraft reach assigned Mission Support Point (MSP).

3.2.6. Coordinate aircraft movement with Air Traffic Control, as required.

3.2.7. Make balloon launch notifications.

3.2.8. Ensure MRU position is operational when airspace activation for launch begins; normally two (2) hours prior to launch (T-120), or as determined by the SLD 45 Airspace Manager in support of unique mission requirements.

3.2.9. Notify Miami ARTCC when ER launch operations have been completed or cancelled and airspace can be returned to Miami ARTCC IAW the SLD 45/SEL Safety Data Products.

3.2.10. Attend launch aircrew briefings.

3.2.11. **Airspace Manager** . Participate on the FAA Mission Hotline IAW FAA/DoD ER Operations Letter of Agreement. Provide pertinent mission data to include but not limited to airspace deactivation and return, non-participating and participating aircraft inquiries, fouled range notifications, catastrophic aborts involving nominal and non-nominal launches, launch time and cancellation of launch or scrubbed launch.

3.2.12. **Airspace Manager.** Identify Crewed launch aerial support assets and distribute to FAA-System Operations Command, North American Aerospace Defense Command (NORAD), Eastern Air Defense Sector (EADS) and other agencies as required. Participate on the Domestic Events Network (DEN) in-count, coordinate real-time participating aircraft verification for Temporary Flight Restriction/Special Security Instruction utilizing a live-radar ‘picture’.

3.3. MRU Training and Evaluation

3.3.1. MRU training will be conducted by 1 ROPS/DOS, SLD 45 Airspace Manager.

3.3.2. MRU training materials are maintained by 1 ROPS/DOS, SLD 45 Airspace Manager.

3.3.3. MRU evaluations will be conducted by 1 ROPS/DOS, SLD 45 Airspace Manager.

3.3.4. MRU evaluations will be maintained by 1 ROPS/DOS, SLD 45 Airspace Manager.

3.4. Miami ARTCC (Miami ARTCC has agreed to the following IAW FAA/DoD Eastern Range Operations Letter of Agreement):

3.4.1. Miami ARTCC MOS will NOTAM airspace, as requested by 1 ROPS/DOS, for ER launch operations. NOTAM notification includes, but is not limited to, Boston ARTCC, New York ARTCC, Washington ARTCC, Jacksonville ARTCC, San Juan CERAP, NASSAU and other agencies and countries affected by ER airspace closures.

3.4.2. Permits normal flow of air traffic within the Warning Areas for flights that will clear the area at least 5 minutes before closure as determined by the latest count forwarded by the ER. Due to uncertainty in launch schedules, the Miami ARTCC will not begin re-routing air traffic prior to receipt of the L-90 count from the ER. Aircraft that will not clear active airspace by required times will be re-routed.

3.4.3. Immediately notifies ER and provides flight details to the MRU when, for any reason, diversion cannot be or has not been accomplished.

3.4.4. Advises all concerned Air Traffic Control agencies when ER operations have been completed, altitude blocks terminated and normal routing of air traffic can be resumed.

3.4.5. Upon request, activates ER-published Special Use airspace for use on a real-time basis. Such requests will be made at least twenty-four (24) hours prior to the anticipated use by the ER.

3.5. Range Users:

3.5.1. Documents requirements for supporting aircraft in the appropriate PRD and OR.

3.5.2. Documents in the PRD and OR all requirements for equipment, storage and maintenance support of all aircraft intending to stage from or use ER facilities during the course of the operation.

3.5.3. Ensures only mission-essential personnel are scheduled aboard the aircraft.

3.5.4. Provides SLD 45/SEL and 1 ROPS/DOF with the designation, type and number of support aircraft and a mission itinerary and Intended Support Plan (ISP) at least 21 working days prior to launch. All ISPs will be finalized and coordinated through required agencies NLT 5 working days prior to the operation. The ER user may require additional coordination with SLD 45/SE to modify the ISPs in the case of an unacceptable risk to the support aircraft. This information may be supplied by an agency other than the specified range user (i.e., lead range, aircraft operator, etc.).

3.5.5. ISPs are not required for any aircraft in support of routine surveillance, security or weather reconnaissance that are not a designated launch support aircraft.

3.6. Launch Safety (SLD 45/SEL):

3.6.1. Provides written ISP approval to 1 ROPS/DO within 5 working days prior to a scheduled operation (provided the ISP is received 21 working days prior to the launch).

3.6.2. Provides 1 ROPS personnel with applicable files in the required Surveillance Control Display System (SCDS) ICD format that represent SEA/AIR Surveillance hit-probability contours for a specific mission on F-10 day to include mission support aircraft contours for specific support aircraft. This delivery includes a printable file that contains all required Sea/Air Surveillance hit-probability contours for a specific mission.

3.6.3. Reviews and approves aircraft ISPs to ensure maximum operational flexibility with current safety constraints.

3.6.4. Provides 1 ROPS personnel with NOTAM/NOTMAR information contained in Safety Data Products for a specific mission NLT F-10 day.

3.6.5. Establishes time constraints for hazardous areas and approves any aircraft entering these areas.

3.6.6. Establishes aircraft breakaway procedures in the event of anomalous launch vehicle performance that could endanger supporting aircraft.

3.6.7. When able, participate on the FAA Mission Hotline. Provide pertinent mission data to include but not limited to catastrophic aborts involving nominal and non-nominal launches.

3.7. Aviation Safety: Reviews, for approval, all unmanned aircraft, drones and Remotely Piloted Vehicle (RPV) flight profiles to ensure compliance of acceptable standards. Range approval is normally identified by Range Safety Acceptance/Risk Management documentation.

3.8. The 45th Weather Squadron:

3.8.1. Provides weather forecast for supporting aircrews as required.

3.8.2. Coordinates and provides required weather support requested by Universal Documentation System Operation Plan.

3.9. The SLD 45 Detachment 2: Downrange Station Commander, Ascension (Det 2) is responsible for providing normal base support to range support aircraft/aircrews staging and recovering at their stations.

3.10. Radiation Safety Officer (45 OMRS) ensures all appropriate controls are employed to protect the health of both military and civilian aircrew personnel when range atmospheric laser operations are conducted.

4. General Information:

4.1. Major Range and Test Facility Base (MRTFB). DoDD 3200.11, Major Range and Test Facility Base, designates the Eastern Range, SLD 45 as an MRTFB.

4.2. Filming and Data Collection Requests. Filming and data collection on/of CCSFS property shall be in accordance with DoDI 5410.16, *DoD Assistance to Non-Government, Entertainment-Oriented Media Productions* and coordinated through SLD 45 Public Affairs Office (DSN: 854-5933/COMM: (321) 494-5933**).**

4.3. New Customers/Programs**:** New customers, programs or changes to existing customer program requests to operate in the Eastern Range SUA shall be in accordance with 45SWI 10-601, *Acceptance Of New Workloads.*

4.4. Unmanned Aircraft Systems (UAS): All Unmanned Aircraft, also commonly referred to as UAS, UAV, Drone and Remotely Piloted Aircraft (RPA) require prior approval to operate in ER SUA. UAS operators must solicit SLD 45 sponsorship/approval to operate or to request changes to previously approved programs through SLD 45/XP IAW 45SWI 10-601. UAS operators must also solicit SLD 45/SE concurrence through Aviation Safety in the form of a Range Safety Acceptance or Letter of Procedure.

4.5. Letters of Agreement or agreed upon procedures in support of home-based or deployed aircraft units to Patrick SFB and Cape Canaveral SFS airfields with the intent to use Eastern Range SUA or to conduct flying missions to and from SLD 45 airfields shall include Airspace Management coordination.

4.6. Surveillance Radars**:** The Melbourne Airport Surveillance Radar (ASR-11 referred to as MLB) and the Shiloh Surveillance Radar (GPN-30 referred to as XMR) provides surveillance capability for the ER. Reduced surveillance capability by one or both Radars affects the 'radar picture' utilized by the ER and reduces or eliminates the ER's ability to provide command and control and surveillance. Simultaneous preventative maintenance inspection (PMI) outages of MLB and XMR should not be authorized without consideration of ER scheduled events. Single radar operations are authorized, however, skin tracking, aircraft target and weather detection are limited. A Surveillance Control Display System (SCDS) outage results in loss of MRU command and control capability and ER's ability to provide ER SUA surveillance. Automatic Dependent Surveillance Broadcast (ADS-B) capability is a separate 'air traffic picture' received from multiple sensors providing aircraft position and aircraft specific data-information. ADS-B capability is 'fused' into the National Airspace System. ADS-B capability is not 'fused' into ER SCDS and surveillance.

4.7. Airspace Deviations: Airspace Deviations, also referred to as 'unauthorized aircraft' or 'intrusions' are aircraft which enter ER SUA without prior approval. ER will notify the respective servicing Terminal Radar Approach Control facility or the servicing Air Route Traffic Control Center and solicit a Mandatory Occurrence Report (MOR). Relay the MOR file number to SLD 45 Security, Aviation Safety, Operations and the Office of Special Investigation. Unmanned Aircraft deviations and detections do not require a MOR. As a minimum, ER should relay the Unmanned Aircraft deviation to SLD 45 Security, Aviation Safety, Operations and the Office of Special Investigation. SLD 45 counter system mitigation requires ER notification to the FAA and respective higher Headquarters.

5. Aircraft In-Flight Emergency (IFE): Aircraft experiencing an IFE will, when able, advise the MRU of the IFE and provide nature of emergency, number of persons on board and pilot's intentions. MRU will provide assistance as requested by the pilot, provide flight following and record all applicable information. ACO will relay applicable information to SLD 45 Command Post and ensure that SCO is apprised of developments.

STEPHEN G. PURDY, JR.
Brigadier General, USSF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 13-2, *Air Traffic Control, Airfield, Airspace and Range Management*, 3 January 2019

DAFMAN 13-201, *Airspace Management*, 10 December 2020

DoDD 3200.11, *Major Range and Test Facility Base*, 27 December 2007

DoDI 5410.16, *DoD Assistance to Non-Government, Entertainment-Oriented Media Productions*, 31 July 2015

AFI 33-322, *Records Management and Information Governance Program*, 28 July 2021

AFSPCMAN 91-710V2, *Range User Launch Safety Requirements Manual Volume 2, Flight Safety Requirements*, 13 July 2017

AFSPCMAN 91-710V4, *Range Safety User Requirements Manual, Airborne Flight Safety System Design, Test, and Documentation Requirements*, 20 November 2017

SPFCMAN91-710V6, *Range Safety User Requirements Manual Volume 6 – Ground and Launch Personnel, Equipment, Systems, and Material Operations Safety Requirements, 18 February 2020*

45SWI 10-601, *Acceptance of New Workloads*, 8 September 2020

FAA/DoD *Eastern Range Operations Letter of Agreement*, 1 May 2020

Abbreviations and Acronyms

ACO—Aerospace Control Officer (CAPE LEADER)

ALTRV—Altitude Reservation

ARTCC—Air Route Traffic Control Center (FAA)

ATCAA—Air Traffic Control Assigned Airspace

ATC—Air Traffic Control

CARF—Central Altitude Reservation Facility (FAA)

CCSFS—Cape Canaveral Space Force Station

COF—Patrick SFB Airfield

DoD—Department of Defense

EOM—End of Mission

ER—Eastern Range

FAA—Federal Aviation Administration

FCO—Flight Control Officer

FHA—Flight Hazard Area

IFE—In-Flight Emergency

IFR—Instrument Flight Rules

ILL—Impact Limit Line

ISP—Intended Support Plan

LDZ—Launch Danger Zone

LOA—Letter of Agreement

LWO—Launch Weather Officer

MARSA—Military Assumes Responsibility for Separation of Aircraft

MFCO—Mission Flight Control Officer

MRTFB—Major Range Test Facility Base

MRU—Military Radar Unit (CAPE CONTROL)

MSP—Mission Support Position

NOTAM—Notice to Air Missions

NOTMAR—Notice to Mariners

OD—Operations Directive

OPLAN—Operational Plan

OR—Operations Requirement

PSFB—Patrick Space Force Base

PRD—Program Requirements Document

PSM—Program Support Manager

ROC—Range Operations Commander

RPV—Remotely Piloted Vehicle

RTB—Return to Base

SCO—Surveillance Control Officer

SSO—Sea Surveillance Officer (VARIETY ONE)

SUA—Special Use Airspace

UAS—Unmanned Aerial System

UAV—Unmanned Aircraft

UDS—Universal Documentation System

VFR—Visual Flight Rules

WX—Weather

XMR—CCSFS Airfield

Terms

Aerospace Control Officer (ACO)—A SLD 45 member who supervises mission and related aircraft operations conducted on the range during launch operations and coordinates to ensure designated airspace is clear of unauthorized encroachments.

Aircrew Mission Support Briefing—Briefing provided to representatives of all aircrews participating in a scheduled launch operation. This briefing is accomplished prior to a scheduled launch.

Altitude Reservation (ALTRV)—Authorization by the FAA under certain circumstances, "for airspace utilization under prescribed conditions." An altitude reservation must receive special handling from FAA facilities.

Bingo—Term used to state an aircraft's fuel capacity in reference to time (i.e., time aircraft would have to RTB for refueling).

Breakaway—Term used to direct an aircraft to break away from current position to a new position away from danger. Breakaway instructions are prebriefed to specify the conditions under which to make breakaway calls, the heading the aircraft follows and the landing location.

Eastern Range (ER)—A Major Range Test Facility Base (MRTFB). ER may refer to facilities, airspace, or services associated with the SLD 45. Range operations typically occur in portions of the Atlantic Ocean airspace, and are primarily associated with, but not limited to, missile/rocket launching. Primary facilities are located at Cape Canaveral Space Force Station (CCSFS). The boundaries of the ER in support of space launch missions are any trajectories (ascent/descent) that meet Flight Safety Analysis governing requirements from launch to orbital insertion and reentry. Note. Orbital Insertion is the point in time when an object or vehicle achieves sufficient altitude and velocity to complete at least one orbit of the Earth. This occurs when the object or vehicle achieves a minimum 130 km perigee based on a computation that accounts for drag.

Emergency—A distress or an urgency condition (FAA definition for aircraft).

Flight Hazard Area (FHA)—A hazardous launch area, the controlled surface area and airspace surrounding the launch pad and flight azimuth where individual risk from a malfunction during the early phase of flight exceeds 1 x 10-5. Because the risk of serious injury or death from blast overpressure or debris is so significant, only launch-essential personnel in approved blast-hardened structures with adequate breathing protection are permitted in this area during launch.

In-Flight Emergency—A distress or an urgency condition affecting an aircraft while in flight.

Impact Areas—Defined area where jettisoned parts, stages or payload will impact ocean or earth surface.

Instrument Flight Rules (IFR)—Rules governing the conduct of aircraft operating under instrument flight conditions.

Intended Support Plan (ISP)—A detailed description of a support aircraft's flight profile to and from its MSP. The aircraft ISP includes aircraft designation and type, number of aircraft, staging location, all planned checkpoints, holding patterns, altitudes, speeds and headings during ingress, egress and assigned mission support positions. For downrange support, the ISP will depict all activities within 200 nautical miles of the MSP. All MSPs are identified in latitude and longitude. All times are relative to the time of the first scheduled launch (see SPFCMAN91-710V6, *Range Safety User Requirements Manual Volume 6, Ground and Launch Personnel, Equipment, Systems, and Material Operations Safety Requirements* or AFSPCMAN 91-710V4, *Range Safety User Requirements Manual, Airborne Flight Safety System Design, Test, and Documentation Requirements,* para 2.3 for all ISP requirements).

Intruder Aircraft—An unauthorized aircraft that has penetrated active Restricted/Special Use

Airspace during a manned or unmanned missile launch operation.

Launch Danger Zone (LDZ)—A combination of the sea surface area and air space measured from the launch point and extending downrange along the intended flight azimuth. The size of the launch danger zone is based on the potential hazard to ships and aircraft.

Military Radar Unit (MRU)—A facility which provides military command and control functions to include traffic advisories to participating and nonparticipating aircraft operating within Eastern Range airspace which has been released to the unit by an appropriate ATC facility. MRU Controllers coordinate with the ACO and SCO on all aircraft activity in assigned special use airspace.

Mission Flight Control Officer (MFCO)—The individual responsible for maintaining positive control of launched vehicles and initiating range, *command destruct"* functions for an errant vehicle (liquid rocket booster, solid rocket motor/solid rocket booster and/or upper stage vehicle).

Mission Support Position (MSP)—A designated location and time that a mission support aircraft must be in position to support an expendable or manned launch operation.

Mode III Code—An aircraft's transponder generates a numbered code used for air traffic control purposes received by a ground station and displayed on a surveillance control display system.

Non-participating Aircraft—An aircraft operating within Eastern Range airspace but not supporting Eastern Range launch operations and not receiving separation services from either airspace boundaries or participating aircraft.

Operation—A scheduled activity where range assets are necessary to support Range User requirements for a specified time period.

Operations Directive (OD)—The ER response to the OR. It is the detailed plan for implementation of support functions for a program, mission, specific operation or a series of operations.

Operations Requirements (OR)—User-prepared document that describes, in detail, the requirements for each program, mission, specific operation or series of operations.

Participating Aircraft—Includes aircraft scheduled to support Eastern Range operations and authorized to operate at the Cape Canaveral Skid Strip (XMR).

Program Requirements Document (PRD)—A detailed statement of needs submitted by a range user to provide a full overview of the program. It describes specific flight vehicle characteristics, objectives, technical data, proposed flight and operational configurations, logistical support and any other requirements for support of the program.

Program Support Plan (PSP)—Range prepared document in response to requirements stated in the PRD; the PSP is the official answer from the ER to the user for support of the program. It is a plan of action to be followed by the ER and its supporting elements in their respective areas of responsibility.

Program Support Manager (PSM)—The Range Squadron individual who has primary responsibility for Eastern Range support to the range user. The PSM is the primary point of contact for all range users for requirements definition, documentation and resolution during the planning and execution phase for any operation.

Radar Hand Off—Action taken to transfer radar identification of an aircraft from one controller to another if that aircraft will enter the receiving controller's airspace and radio communication with the aircraft will be transferred.

Radar Point Out—An action taken by a controller to transfer the radar identification of an aircraft to another controller if the aircraft will or may enter the airspace or protected airspace of another controller and radio communications will not be transferred.

Range User/Customer—Any Department of Defense organization, other US Government agency, state or local Government, civic, private or commercial organization or foreign government with authority to use range resources.

Sea Surveillance Mission—Combined efforts of various controlling agencies, surface vessels and airborne aircraft to ensure non-participating surface vessels and aircraft remain well clear of the established LDZ and FHA during Eastern Range launch operations.

Sea Surveillance Officer (SSO)—An SLD 45 member who coordinates the movement of vessels through surveillance control aircraft, supporting radars and the United States Coast Guard (USCG). The SSO predicts the location of vessels at T-0 and diverts targets to a safe location prior to launch.

Special Use Airspace (SUA)—Airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Types of SUA that make up Eastern Range airspace are:

Air Traffic Control Assigned Airspace (ATCAA)—Airspace of defined vertical/lateral limits assigned by ATC for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR air traffic.

Restricted Area—Airspace designated under 14 CFR Part 73 within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated "joint use" and IFR/VFR operations in the area may be authorized by the controlling ATC facility when it is not being utilized by the using agency.

Temporary Flight Restriction (TFR)—An airspace prohibition implemented for a specified airspace area on a temporary basis to provide protections for persons or property in the air or on the ground.

Warning Area—A warning area is airspace of defined dimensions extending 3 nautical miles outward from the coast of the United States that contains activities that may be hazardous to non-participating aircraft. The purpose of a Warning Area is to warn non-participating pilots of the potential danger. A warning area may be located over domestic or international waters or both.

Surveillance Control Officer (SCO)—An SLD 45 member who performs launch area surveillance which encompasses air and sea areas designated as the FHA and the LDZ. The SCO directs activities in the Surveillance Control room and coordinates actions between the ACO and the SSO. The SCO ensures hazard areas are clear of unauthorized aircraft, ships, boats and people prior to giving a final "GO" call for launch.

Surveillance Risk Analyst (SRA)—An SLD 45/SEL analyst who assists the SCO in ensuring surface vessels and aircraft are not violating acceptable risk levels.

Visual Flight Rules (VFR)—Rules governing the conduct of aircraft operating under visual flight conditions.

Attachment 2

EASTERN RANGE LAUNCH AIRSPACE ACTIVATION/DEACTIVATION SUMMARY

Table A2.1. Eastern Range Launch Airspace Activation/Deactivation Summary.

OFFICE	NOTIFICATION	GIVEN TO	TIME GIVEN	HOW GIVEN
1 ROPS/DOS	NOTAM APREQ ALTRV	FAA MIAMI FAA CARF DoD	10 DAYS PRIOR TO LAUNCH OR WHEN MISSION SAFETY DATA PRODUCTS ARE RECEIVED /REVISED (whichever occurs later)	EMAIL
SLD 45/MRU	L-90 count	Miami ARTCC	L-90 minutes	Landline
	L-60 count	Miami ARTCC	L-60 minutes	Landline
	L-30 count	Miami ARTCC	L-30 minutes	Landline
	Unscheduled Hold	Miami ARTCC	At time of unscheduled hold	Landline
	NOTAM Cancellation	Miami ARTCC	At time of cancellation	Landline
	Airspace no longer required	Miami ARTCC	When airspace is released by SCO	Landline
	Any hold of 15 minutes or more between L-90 & L-30	Miami ARTCC	As required	Landline
	When Op complete	Miami ARTCC	When Op complete	Landline
ACO	Verify that above tasks have been completed		As Required	Verbal

Attachment 3

LAUNCH AIRCRAFT MODE – 3 CODES (REFERENCE FAA/DOD ER OPERATIONS LOA) ANNEX 4

Table A3.1. Launch Aircraft Mode-3 codes.

*	5030	Search-1	UH-1
*	5031	Search-2	UH-1
*	5032	Search-3	UH-1
*	5033	(Spare)	
*	5034	(Spare)	
	5035	(Spare)	
	5036	(Spare)	
	5037	(Spare)	
	5040	(Surveillance Spare)	Commercial
*	5041	Jolly-1	H-60
*	5042	Jolly-2	H-60
*	5043	Jolly-3	H-60
*	5044	Jolly-4	H-60
*	5045	Jolly-5	H-60
	5046	(Spare)	
	5047	(Spare)	
	5050	King-1	C-130
	5051	King-2	C-130
	5053	King-3	C-130
	5052	WX01	
	5054	WB-57	
	5055	WB-57	
	5056	Relay-1	
	5057	Press/VIP	

Attachment 4

EASTERN RANGE SPECIAL USE AIRSPACE AND OTHER AIRSPACE FOR MILITARY USE

Table A4.1. Restricted Area.

R-2932	Surface – 4999 MSL	Active continuously
R-2933	5000 MSL – Unlimited	Active by NOTAM
R-2934	Surface – Unlimited	Active by NOTAM
R-2935	11000 MSL – Unlimited	Active by NOTAM

Table A4.2. Warning Area.

W-497A	Surface – Unlimited	Active by NOTAM
W-497B	Surface – Unlimited	Active by NOTAM

Table A4.3. Air Traffic Control Assigned Airspace (ATCAA).

CAPE ATCAA Surface – FL 180	ACTIVE by NOTAM

Table A4.4. Space Flight Operations Flight Restriction.

CFR 91.143 Surface – Unlimited	ACTIVE by NOTAM
Code of Federal Regulation (CFR)	

Table A4.5. Special Security Instruction (SSI) Temporary Flight Restriction (TFR).

99.7 SSI TFR Surface – 4,999 MSL	Active continuously (No-Drone in R2932)

Figure A4.1. Restricted Area.

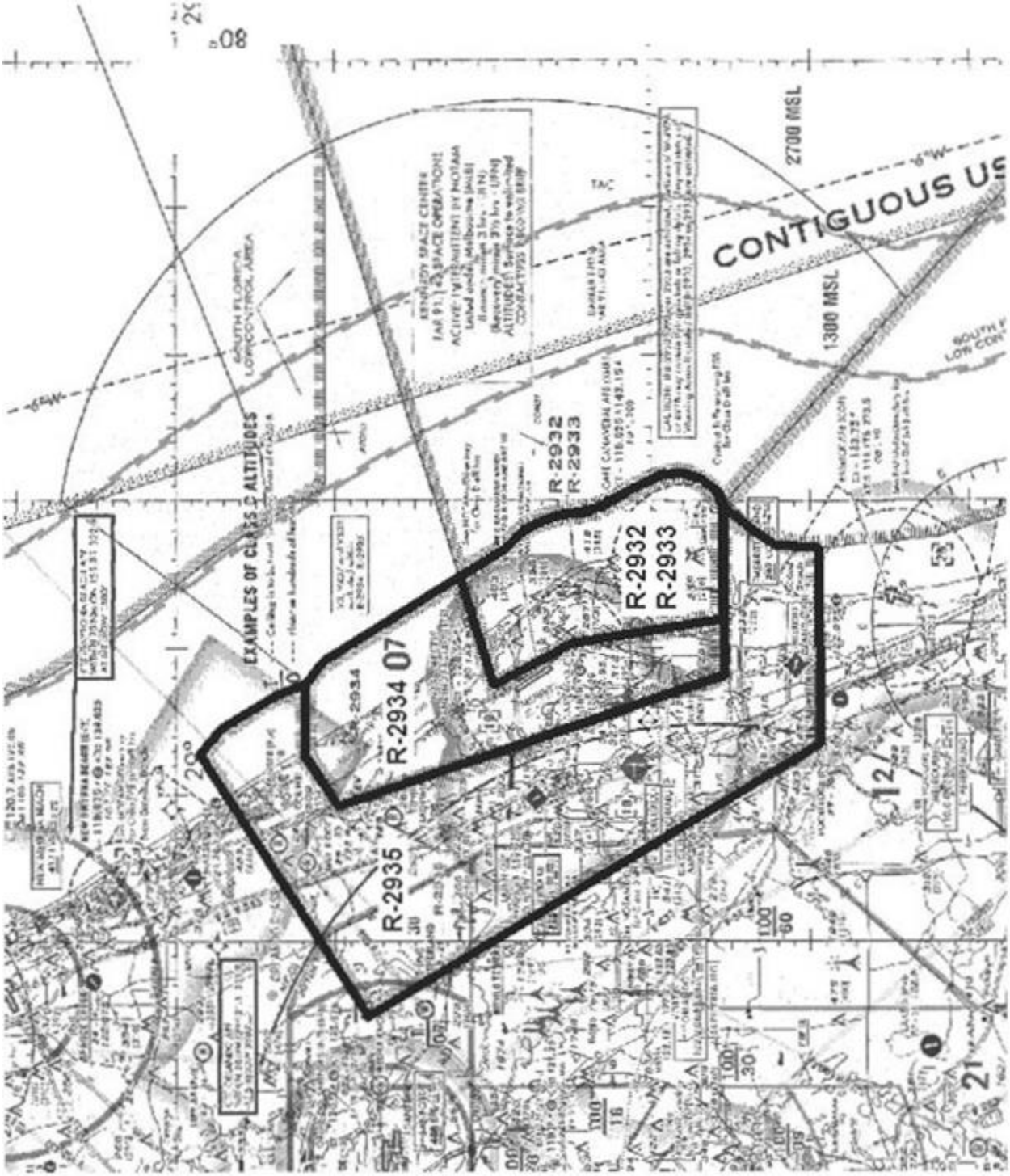


Figure A4.2. Warning Area.

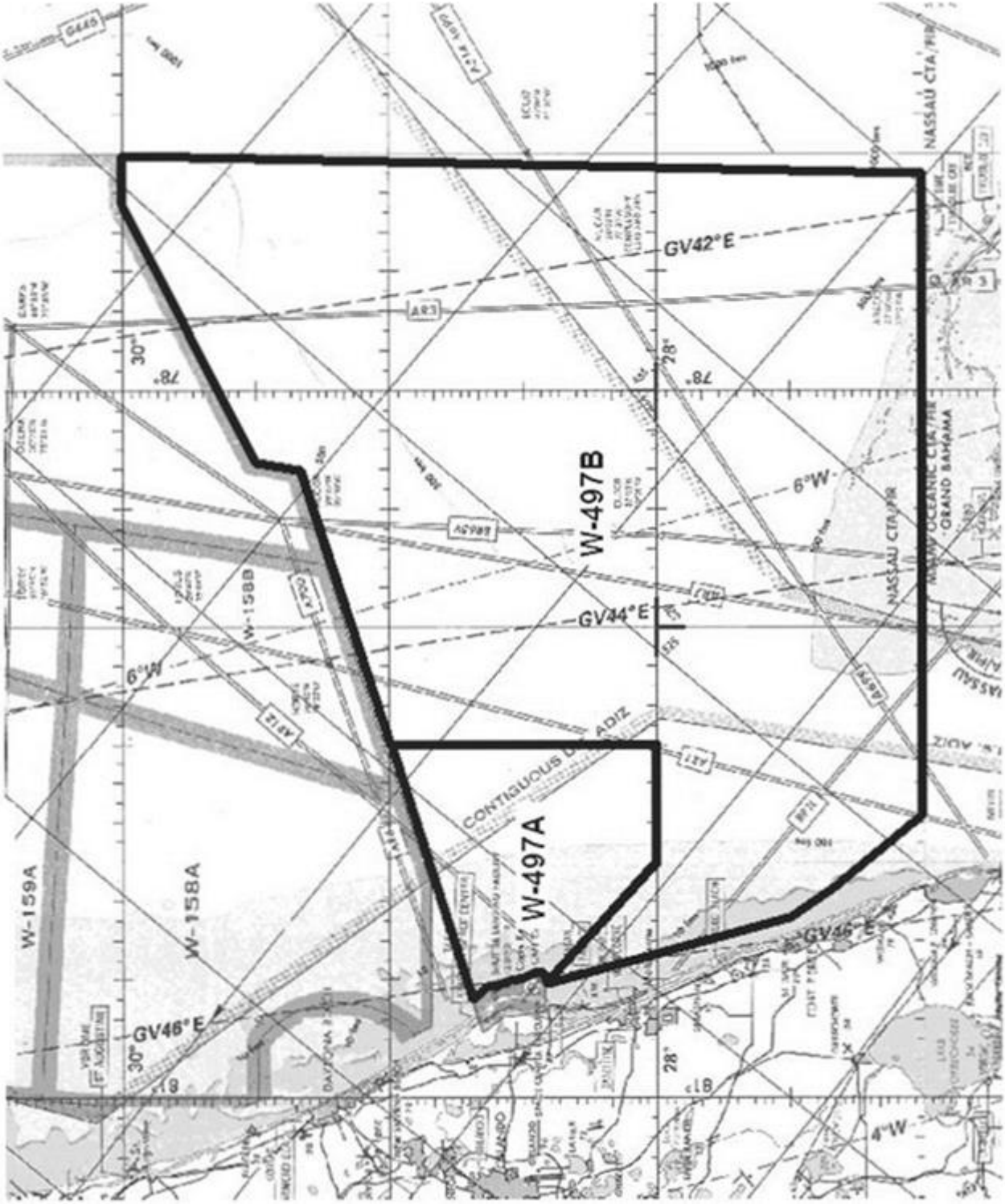


Figure A4.3. Space Flight Operations Flight Restriction.

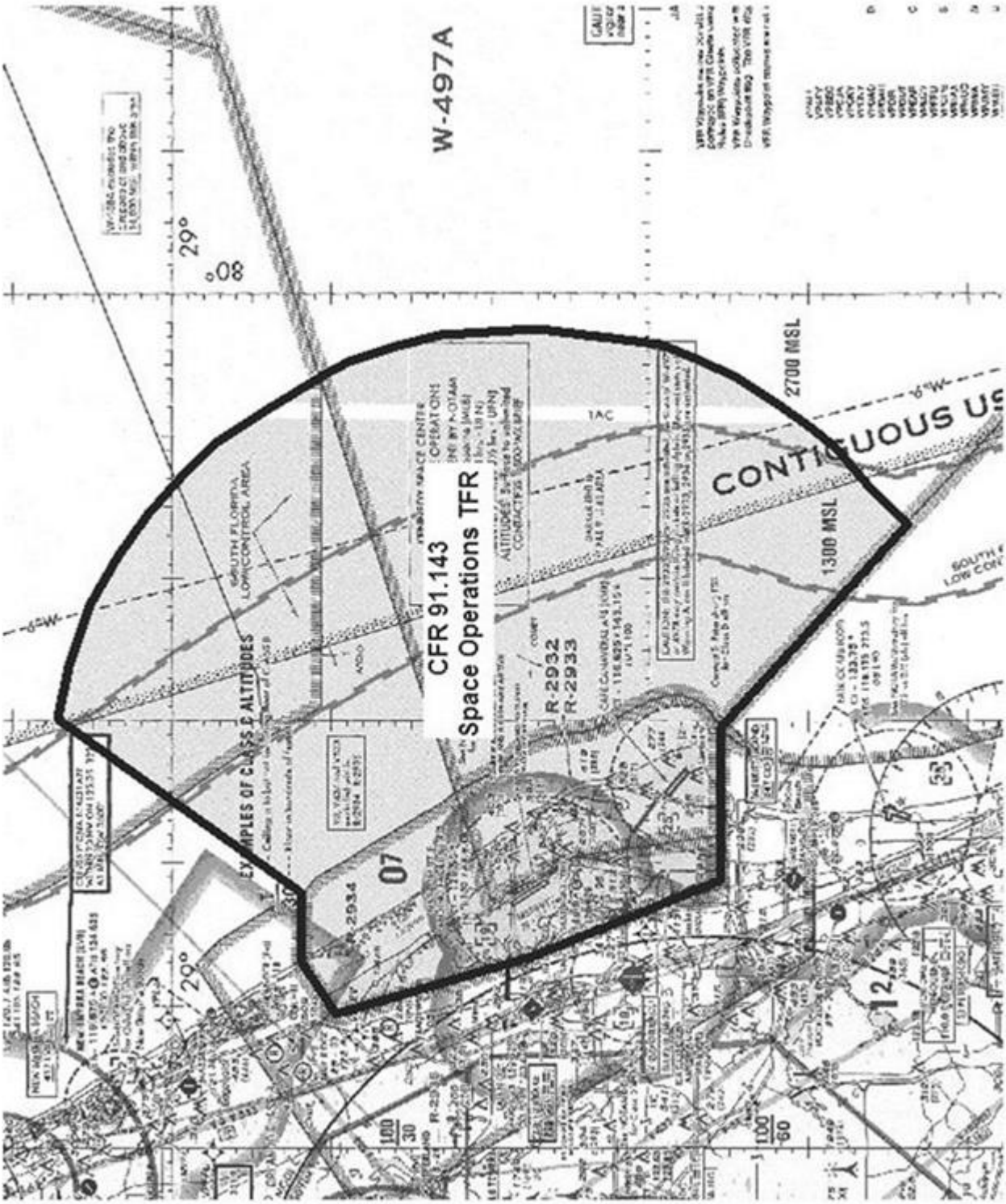


Figure A4.4. Cape Air Traffic Controlled Assigned Airspace (CAPE ATCAA).

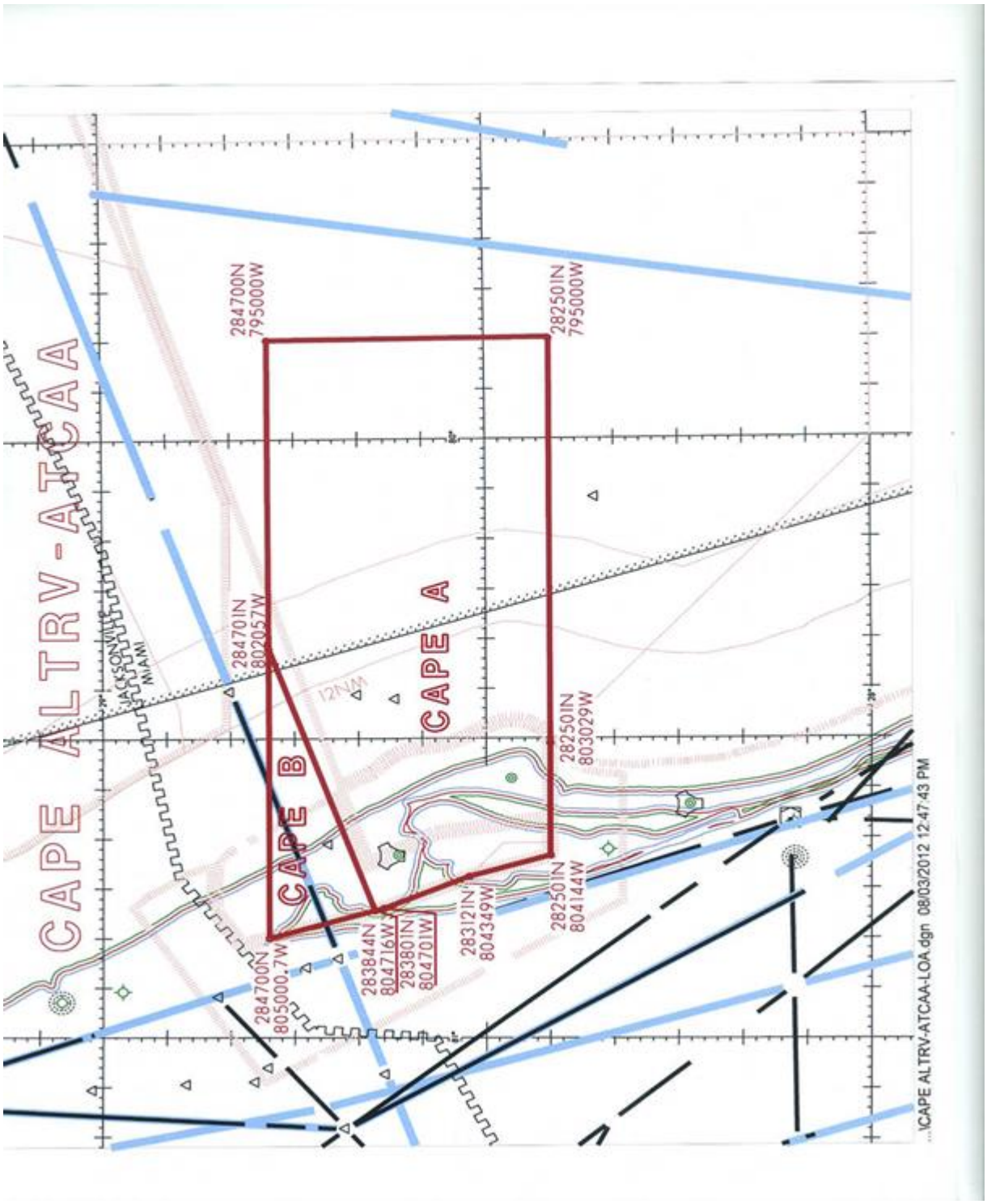
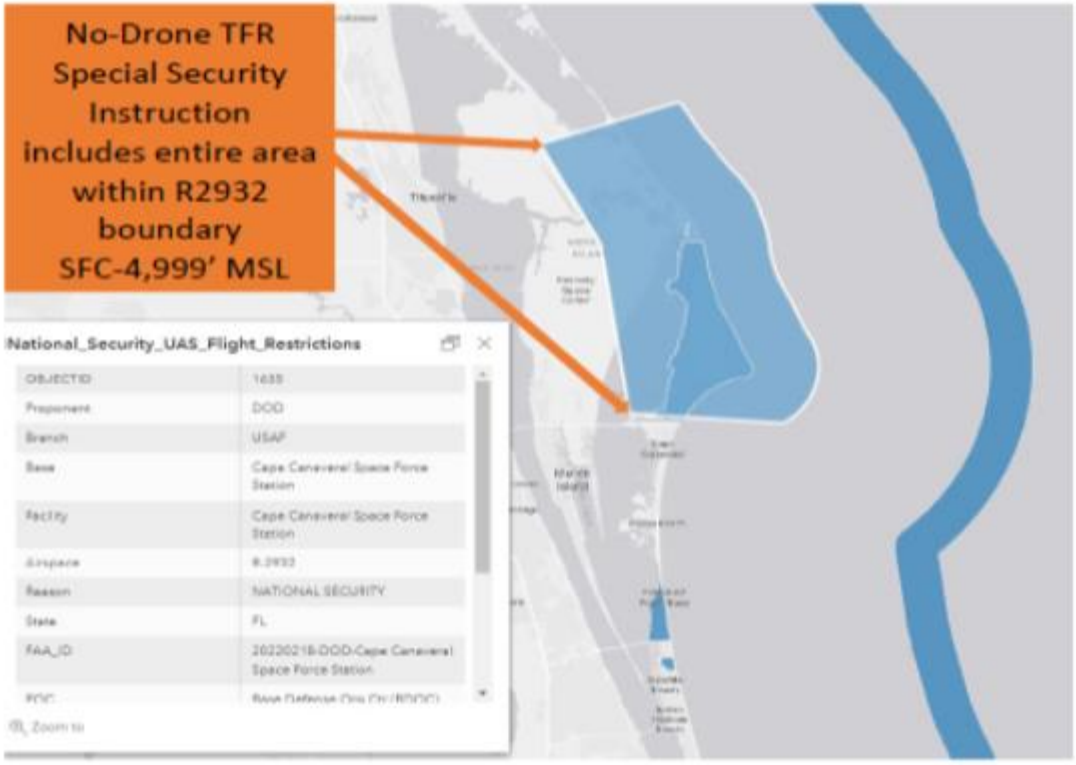


Figure A4.5. Special Security Instruction (SSI) Temporary Flight Restriction (TFR).



FDC NOTAM: SPECIAL SECURITY INSTRUCTIONS FOR UNMANNED AIRCRAFT SYSTEM (UAS) OPERATIONS IN THE VICINITY OF CAPE CANAVERAL AND THE KENNEDY SPACE CENTER

PURSUANT TO 49 U.S.C. SECTION 40103(B)(3), THE FAA CLASSIFIES THE AIRSPACE DEFINED IN THIS NOTAM AND IN FURTHER DETAIL BY THE FAA WEBSITE IDENTIFIED BELOW AS 'NATIONAL DEFENSE AIRSPACE'. UAS OPERATORS WHO DO NOT COMPLY WITH APPLICABLE AIRSPACE RESTRICTIONS ARE WARNED THAT PURSUANT TO 10 U.S.C. SECTION 130I AND 6 U.S.C. SECTION 124N, THE DEPARTMENT OF DEFENSE (DOD), DEPARTMENT OF HOMELAND SECURITY (DHS), OR THE DEPARTMENT OF JUSTICE (DOJ) MAY TAKE SECURITY ACTION THAT RESULTS IN THE INTERFERENCE, DISRUPTION, SEIZURE, DAMAGING, OR DESTRUCTION OF UNMANNED AIRCRAFT DEEMED TO POSE A CREDIBLE SAFETY OR SECURITY THREAT TO PROTECTED PERSONNEL, FACILITIES, OR ASSETS. THE DEPARTMENT OF DEFENSE (DOD) MAY TAKE SECURITY ACTION THAT RESULTS IN THE INTERFERENCE, DISRUPTION, SEIZURE, DAMAGING, OR DESTRUCTION OF UNMANNED AIRCRAFT CONSIDERED TO POSE A SAFETY OR SECURITY THREAT TO PROTECTED NATIONAL SECURITY ASSETS. *FULL NOTAM AVAILABLE ON NOTAM WEBSITE.