OAKLAND ARTCC

Oakland OCA (ZAK)
STANDARD OPERATING PROCEDURE
Version 2.1

List of Changes

VERSION	DATE	DESCRIPTION
2.0	06OCT2022	Rewrite and reformat of SOP
2.1	20APR2023	23NM lateral separation per 7110.65AA, formatting

Section 1. General Information

1-1 Purpose

This Standard Operating Procedure (SOP) outlines the procedures to be used by controllers working Oakland OCA sectors on the VATSIM network, to ensure that traffic flows are handled in as efficient and timely a manner as possible. This SOP is for simulation purposes only and shall not be used for real world use or reference.

1-2 Distribution

This SOP is distributed to all members of the Oakland ARTCC on VATSIM.

1-3 Cancellation

All previous procedures are canceled.

1-4 Aircraft Equipment

a. All aircraft flying on VATSIM are assumed to be equipped with a transponder, VHF radio, HF radio, and to be ADS-B Out capable
    i. Aircraft are also assumed to be capable of SELCAL, which shall be achieved through the SELCAL feature of the controller client
b. Aircraft operating within the Oakland OCA that are GNSS equipped shall be assumed to be RNP4, RCP240, RSP180 authorized and FANS1 equipped
    i. FANS1 allows aircraft to use CPDLC and ADS-C
    ii. ADS-C reporting shall be assumed to be on a less than 10 minute interval
    iii. CPDLC simulation shall be achieved via private message
    iv. ADS-C reporting is assumed to be taking place between the aircraft and the controller client without any action from the pilot or the controller
    v. Pilots or controllers may choose to simulate an aircraft containing less complex navigational equipment on board if the traffic situation permits
        1. The FAA ICAO Flight Plan Guide can be used to decipher the ICAO equipment code

Section 2. Airspace

2-1 General Information

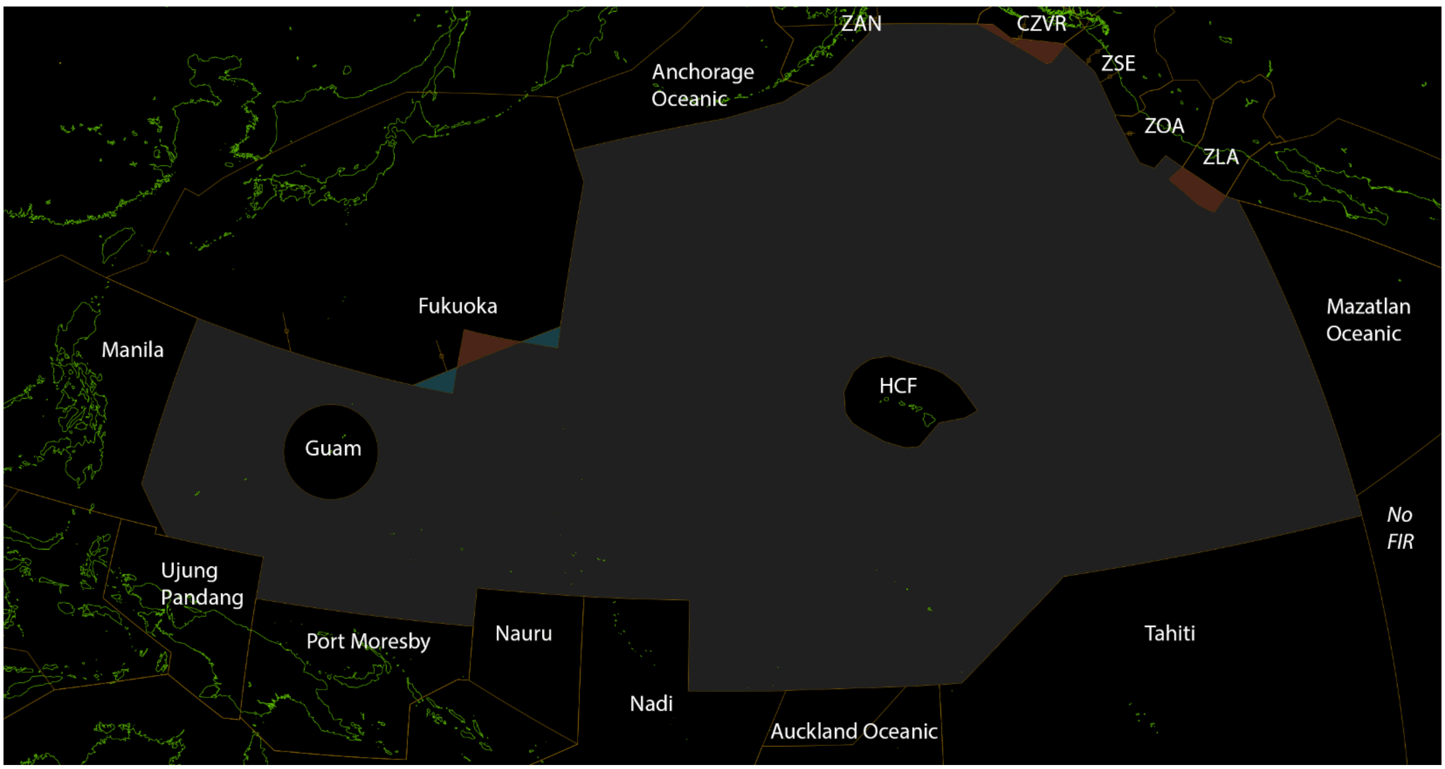
a. Oakland ARTCC is responsible for air traffic control services within the Oakland OCA/FIR from FL055 and above, and for flight information and alerting services from surface and above
    i. This excludes airspace delegated to other facilities (outlined in Section 2-4 of this SOP), whether they are staffed or not
b. Transition altitude within the Oakland OCA/FIR is FL055
c. Currently only vatSys can be used as the client to control the entire OCA at once
    i. Operating only a portion of the OCA is discouraged during non-event times
    ii. Sectorization of the OCA is available per the procedures in Appendix C if the traffic volume and/or complexity requires it
    iii. It may be possible to operate sectors fully contained east or west of 180° longitude using other controller clients, but these files are not up to date and are not supported
d. Reduced Vertical Separation Minima (RVSM):
    i. The entire Oakland OCA is RVSM exclusive airspace between FL290 and FL410
    ii. Certain groups of non-RVSM qualified aircraft are to be accommodated in RVSM airspace if workload permits; these aircraft require 2,000 ft of vertical separation
e. VFR Flight
    i. VFR flights may be conducted in the Oakland OCA/FIR within the airspace surrounding Pacific Islands:
        1. Between sunrise and sunset; and
        2. When operating less than 100 nm of shoreline of and landmass; and
        3. Below FL200
    ii. VFR flights are otherwise prohibited in the Oakland OCA/FIR
f. Altimeter setting
    i. Within the OCA, unless directed and/or charted otherwise, altitude assignment must be based on flight levels and a standard altimeter setting of 29.92 inHg

2-2 Airspace Narrative

The Oakland OCA spans a vast portion of airspace over the Pacific Ocean. To the east, it shares boundaries with the Vancouver, Seattle, Oakland, Los Angeles, and Mazatlán FIRs. The Tahiti, Auckland Oceanic, Nadi, Nauru, Port Moresby, and Ujung Pandang FIRs lie to the south. In the east, it neighbors the Manila and Fukuoka FIRs. The Anchorage and Anchorage Oceanic FIRs are to the north. The Oakland OCA fully encircles the Honolulu Control Facility and the Guam CERAP. The major traffic flows within the OCA include flights between North America and Asia, California and the Hawaiian Islands, Alaska and the Hawaiian Islands, and between Japan and Australia/New Zealand. Most flights between North America and Asia utilize Pacific Organized Track System (PACOTS) routings. Eastbound PACOTS tracks are in effect 0700 – 2300 UTC daily, and westbound PACOTS tracks are in effect 1900 – 0800 UTC daily. Traffic between California and the Hawaiian Islands utilizes the California East Pacific (CEP) route system, which consists of seven primary airways. While most of the traffic in the OCA is eastbound or westbound, caution must be exercised for any crossing northbound or southbound traffic. In addition to overflights, the Oakland OCA services many small island airports not covered by other facilities.

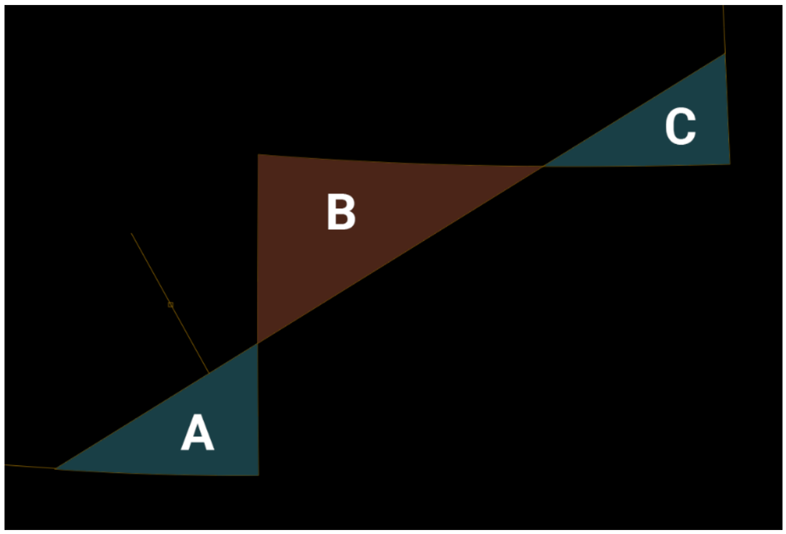
2-3 Airspace Diagram

Oakland FIR airspace is shaded. Delegations from the Oakland FIR to other FIRs are shaded in dark orange. Delegations from other FIRs to the Oakland FIR are shaded in cyan. The Honolulu Control Facility and Guam CERAP are left unshaded.

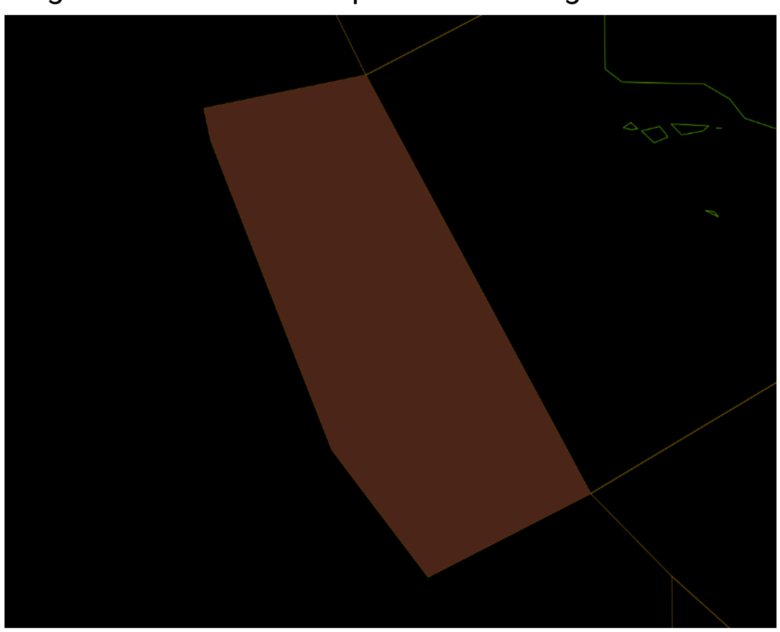


2-4 Airspace Delegation

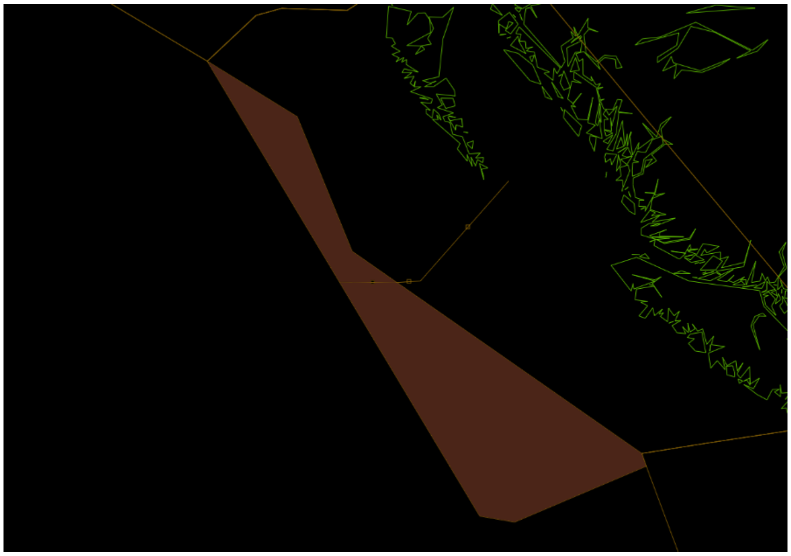
a. Oakland Oceanic FIR – Fukuoka FIR
    i. Oakland assumes responsibility for positive control of aircraft operating FL055 and above in Areas A & C
    ii. Fukuoka retains responsibility for flight information/alerting below FL055 in Areas A & C
    iii. Fukuoka assumes responsibility for positive control of aircraft operating FL055 and above in Area B
    iv. Oakland retains responsibility for flight information/alerting below FL055 in Area B



b. Oakland Oceanic FIR – Los Angeles ARTCC
    i. Oakland delegates the shaded airspace to Los Angeles FL240 and above



c. Oakland Oceanic FIR – Bucholz Tower (PKWA)
    i. Oakland delegates the airspace at and below 4,500 ft MSL within a 15 nm radius of the Bucholz TACAN (NDJ)
d. Oakland Oceanic FIR – Honolulu Control Facility
    i. Oakland delegates airspace at all altitudes to Honolulu
e. Oakland Oceanic FIR – Guam CERAP
    i. Oakland delegates airspace at all altitudes to Guam within a 250 nm radius of Mount Santa Rosa Radar
f. Oakland Oceanic FIR – Vancouver ACC
    i. Oakland delegates the shaded airspace to Vancouver FL256 and above



Section 3. Procedures

3-1 General Information

a. Nonradar procedures, as specified by FAA JO 7110.65 Chapters 6 & 8 shall be used within the Oakland OCA
    i. Pacific region separation minima are outlined in Chapter 8 Section 9
    ii. Separation standards are summarized in Appendix A, however, in the case of a discrepancy, those outlined in the latest edition of the FAA JO 7110.65 take precedence
b. The Pacific Chart Supplement contains up to date procedures for the Pacific region

3-2 Position Duties and Responsibilities

a. The duties of radio operator and air traffic controller are typically shared by the same individual when operating the Oakland OCA on VATSIM
b. If the traffic volume and/or complexity requires it, the duties of radio operator and air traffic controller may be split between two certified controllers
    i. A certified controller may serve as radio operator to one or more sectors of the OCA
c. Radio operator
    i. Relays air traffic control instructions to aircraft via HF
    ii. Relays aircraft transmissions, including position reports, to the air traffic controller
    iii. Establishes SELCAL watch with capable aircraft
d. Air traffic controller
    i. Separates traffic
    ii. Coordinates with adjacent facilities as specified in this SOP and applicable LOAs
    iii. Issues control instructions directly to aircraft using CPDLC
    iv. Instructs radio operator to relay control instructions or request position reports from aircraft

3-3 Frequencies

DESCRIPTION	RADIO CALLSIGN	HF FREQUENCY	VHF ALIAS
Primary	**San Francisco Radio**	**6.352**	**131.950**
Alternate 1	San Francisco Radio	5.547	131.175
Alternate 2	San Francisco Radio	8.870	130.700
Alternate 3	San Francisco Radio	5.643	128.900
Alternate 4	San Francisco Radio	8.843	130.800
Alternate 5	San Francisco Radio	6.655	129.400

a. When communicating via HF with an aircraft, the callsign “San Francisco Radio” must be used
b. The use of FSS facility type is required to ensure adequate text radio range
c. When the number of sectors staffed exceeds the number of available frequencies, a radio operator position shall be staffed to manage HF communications for more than one sector
d. When logging in solely to serve as the radio operator, the controller shall include “RO” in their callsign
    i. Example: the first radio operator would log on as ZAK_RO_FSS and utilizes the primary frequency, and the second radio operator logs on as ZAK_RO1_FSS and utilizes the Alternate 1 frequency

3-4 Communications

a. Oceanic control sectors do not have specific assigned frequencies; communications via HF radio are accomplished through a radio operator
    i. In most day-to-day operations on VATSIM, the controller and radio operator duties are performed by the same individual
    ii. Controllers relaying messages through a radio operator, or another aircraft shall prefix messages with “ATC Clears”, “ATC Advises”, or “ATC Requests”
        1. This phraseology shall be used even if the same individual is operating the radio operator and ATC position
b. Controllers have a direct form of communication with aircraft using CPDLC, for aircraft that are equipped (per Section 1-4 of this SOP)

3-5 SELCAL

a. Aircraft that have passed a SELCAL check may maintain "SELCAL watch" and turn down the volume of their radio until being summoned by SELCAL as necessary
b. When an aircraft initially checks in on the frequency, they shall be instructed to "standby for SELCAL check" and the SELCAL message shall be sent using the controller client
c. All subsequent communications via the radio shall be prefaced by a SELCAL message; allow the pilot to respond to the SELCAL message before passing a new message
    i. CPDLC (private messages) messages may be sent without utilizing SELCAL

NOTE: SELCAL on VATSIM is not perfect and some pilots may be using custom software to simulate SELCAL. Ensure the aircraft passes a SELCAL check on their initial contact with you and if that fails, revert to utilizing the VATSIM "contact me" feature.

3-6 Position Reports

a. Aircraft that are ADS-C capable (per Section 1-4 of this SOP) are assumed to be automatically submitting position reports to the controller client
    i. These aircraft shall be squawking 2000 for vatSys to correctly depict them
    ii. ADS-C is simulated by using the "track" feature of the controller client
        1. If using the "track" feature, OCA controllers shall drop track prior to transferring control of an aircraft to the next facility
    iii. This paragraph does not preclude an air traffic controller requesting a manual position report via the radio operator (frequency) or CPDLC
b. All fixes in the Oakland OCA are mandatory reporting points
    i. Controllers shall require aircraft whose reporting points are more than 80 minutes apart to make hourly position report in addition to their filed reporting waypoints
c. Position report elements solicited shall include:
    i. Aircraft identification (callsign)
    ii. Position and time (crossed waypoint and time crossed)
    iii. Altitude or flight level
    iv. Next reporting waypoint and ETA
    v. Subsequent reporting waypoint
d. If a pilot finds that an estimate has subsequently varied by more than 2 minutes since making a position report, the new estimate shall be passed to ATC
e. If an aircraft fails to report its position within 10 minutes of its estimated time, controllers must attempt to establish contact with the aircraft and obtain a position report

3-7 Weather Deviations

a. When weather deviation is required, the pilot should contact ATC via CPDLC or voice (through the radio operator)
    i. The pilot should advise ATC the possible extent of the deviation
b. Upon receiving a pilot's request to deviate, ATC should take one of the following actions:
    i. When appropriate separation can be applied, issue clearance to deviate
    ii. If there is conflicting traffic and ATC is unable to establish appropriate separation, ATC should:
        1. Advise the pilot of inability to issue clearance for the requested deviation
        2. Advise the pilot of conflicting traffic
        3. Request the pilot's intentions
c. If an ATC clearance for a deviation is not able to be issued (or a pilot is unable to obtain such clearance in a timely manner), the pilot should advise ATC of intentions and may exercise the authority of a pilot-in-command under the provisions of ICAO Annex 2, 2.3.1 until an ATC clearance is received

3-8 Strategic Lateral Offsets

a. In RVSM airspace it is possible for an aircraft to encounter wake turbulence and not have separation necessary to change altitude to get out of the turbulence
    i. A pilot may initiate a temporary lateral offset of up to 2 nm from the assigned routing
    ii. The pilot will notify ATC when offsetting for wake turbulence and then notify ATC again when returning to course; no acknowledgement is required from ATC

3-9 Time Compression Procedures

a. To facilitate pilot interest to operate within the Oceanic OCA, controllers shall make effort to make time compression flight available to pilots
b. Time compression flight shall be available between FL380 and FL410 and controllers should make efforts to clear these altitudes when an aircraft request time compression flight, traffic permitting
c. ATC may decline time compression flight due to traffic volume or complexity

3-10 Controller Information Template

ATC by Oakland Center, radio relay by San Francisco Radio This is a non-radar environment. Aircraft are assumed to have ADS-C automatic position reporting capabilities unless explicitly requested otherwise by the pilot. All aircraft squawk 2000 while in Oakland OCA airspace.

Section 4. Coordination

4-1 General Information

a. Prior to applying ADS distance-based separation standards, controllers must ensure that the next sector/facility will accept the separation standard; if the next sector/facility will not accept the standard, ensure another form of separation before the aircraft reaches the TCP
b. Except for emergency situations, prior to clearing an aircraft to an altitude or on a route that differs from the transferred flight information, coordination shall be completed with the receiving controller when the aircraft is within 30 minutes of the TCP

4-2 Oceanic Clearance

a. Aircraft are not required to obtain their own oceanic clearance to operate within the OCA
b. Clearances issued to aircraft at their departure airport also serve as the oceanic clearances for the Oakland OCA

4-3 Outbound Coordination

a. All coordination procedures below shall be used unless in conflict with a letter of agreement that exists with the receiving facility
b. The Oakland OCA controller shall initiate coordination with the receiving facility in accordance with the time parameters specified below
    i. VATUSA facilities: 15 minutes prior to the TCP
    ii. Non-FAA facilities: 30 minutes prior to the TCP
    iii. Coordination for aircraft departing airports less than the required coordination lead time away from the boundary shall be accomplished prior to the departure
c. Coordination shall consist of the elements specified below
    i. VATUSA facilities: callsign, TCP fix, and assigned altitude
    ii. Non-FAA facilities: callsign, TCP fix, TCP ETA, and assigned altitude
        1. The Oakland OCA controller shall notify the receiving controller if the TCP ETA changes by more than 3 minutes
d. Aircraft shall be instructed to switch to the receiving controller's frequency not later than 5 minutes prior to the TCP
    i. Aircraft that are simulated to have a datalink (CPDLC/ADS-C) connection shall be informed of termination of this connection, unless a procedure for transferring the datalink connection to the receiving controller is specified in a letter of agreement

4-4 Inbound Coordination

a. All coordination procedures below shall be used unless in conflict with a letter of agreement that exists with the transferring facility
b. Adjacent facilities shall initiate coordination with the Oakland OCA controller in accordance with the time parameters prescribed below, or as soon as practicable once the aircraft becomes airborne,
    i. VATUSA facilities: 15 minutes prior to the TCP
    ii. Non-FAA facilities: 30 minutes prior to the TCP
c. Coordination shall consist of the elements specified below, or as specified in an LOA
    i. Callsign, TCP fix, TCP ETA, and requested altitude
d. The Oakland OCA controller will issue clearance adjustments as necessary
e. The adjacent facility's controller shall notify the Oakland OCA controller if the TCP ETA changes by more than 3 minutes
f. Aircraft shall be instructed to squawk 2000 and switch to the appropriate San Francisco Radio frequency not later than 5 minutes prior to the TCP

Appendix A. Separation Standards

A-1 General

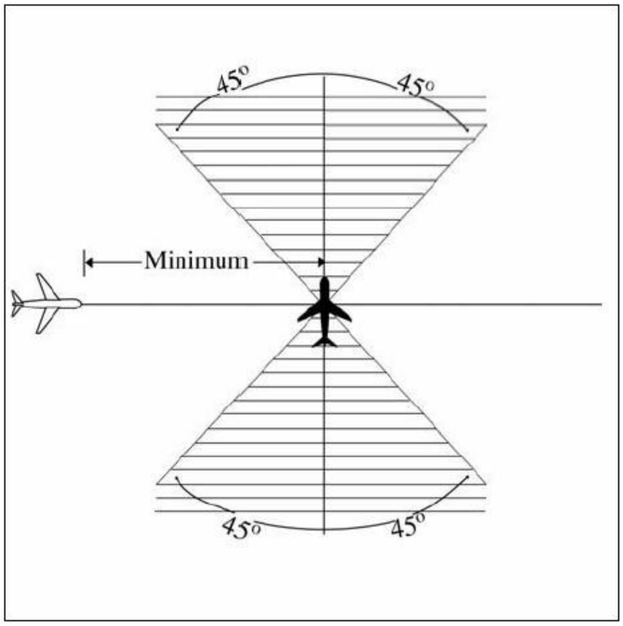
a. This appendix summarizes the contents of FAA JO 7110.65 chapters 6 & 8 based on the assumptions listed in Section 1-4; this appendix alone is not sufficient to understand all the separation requirements
b. Separation must consist of at least one of the following
    i. Vertical separation
    ii. Horizontal separation (longitudinal or lateral)

A-2 Vertical Separation

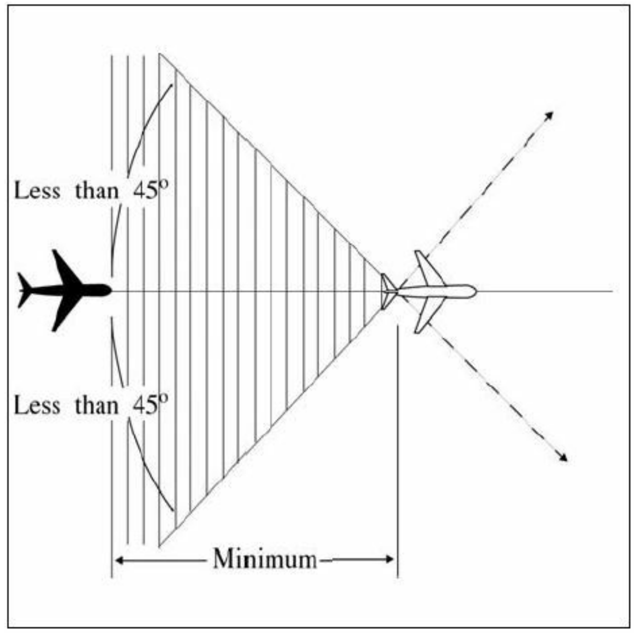
a. Assign an altitude to an aircraft after the aircraft previously at that altitude has reported leaving the altitude
b. The following minima must be applied:
    i. At or below FL410: 1000 feet
    ii. At or above FL290 between non-RVSM aircraft and all other aircraft above FL290: 2000 feet
    iii. Above FL410: 2000 feet, except
        1. In oceanic airspace, above FL450 between a supersonic and any other aircraft: 4000 feet
        2. Above FL600 between military aircraft: 5000 feet

A-3 Longitudinal Separation

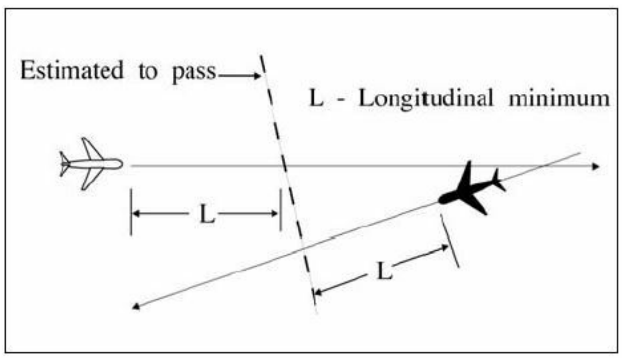
Crossing Courses



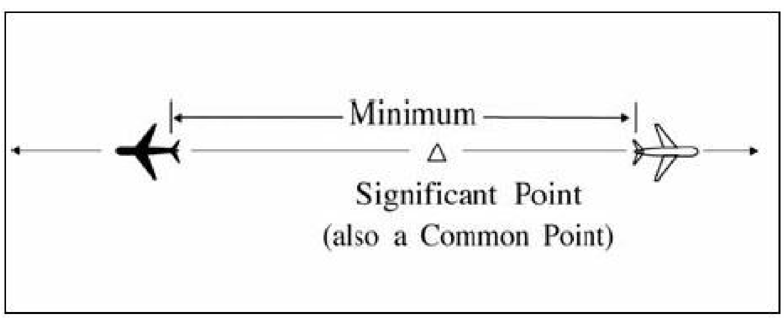
Same Courses



Reciprocal Courses



Vertical Separation



a. Separate aircraft longitudinally in accordance with the following:
   i. Same track: the estimated spacing between aircraft is not less than the minimum
   ii. Crossing tracks: the estimated spacing at the point of intersection is not less than the minimum
   iii. Reciprocal tracks:

        1. Ensure aircraft are vertically separated for a time interval equal to the minimum before and after aircraft are estimated to pass
        2. Vertical separation may be discontinued when both aircraft have reported passing a significant point and the aircraft are separated by the longitudinal minimum OR when both aircraft have reported passing ground-based NAVAIDs or DME fixes indicating that they have passed each other

b. Minima based on distance may be applied as prescribed in FAA JO 7110.65 Chapter 6, however, these techniques required DME and therefore are not very applicable in the OCA
c. Minima based on time:
    i. 15 minutes between aircraft
    ii. 10 minutes between turbojet aircraft whether in level, climbing or descending flight, provided that the aircraft concerned follow the same track or continuously diverging tracks until some other form of separation is provided
    iii. Using the Mach Number Technique
    iv. Reciprocal track aircraft: where lateral separation is not provided, vertical separation must be provided at least 10 minutes before and after the time the aircraft are estimated to pass or are estimated to have passed
d. Mach Number Technique
    i. This technique may be applied to allow for reduced longitudinal separation minima, only between turbojet aircraft which are following the same or continuously diverging tracks
    ii. A Mach number must be issued to each aircraft
    iii. The following longitudinal minima apply when using the technique
        1. 10 minutes separation if the preceding aircraft is less than Mach 0.01 faster than the following aircraft
        2. 9 minutes if the preceding aircraft is Mach 0.02 faster than the following
        3. 8 minutes if the preceding aircraft is Mach 0.03 faster than the following
        4. 7 minutes if the preceding aircraft is Mach 0.04 faster than the following
        5. 6 minutes if the preceding aircraft is Mach 0.05 faster than the following
        6. 5 minutes if the preceding aircraft is Mach 0.06 faster than the following
e. ADS-B In Trail Procedure (ITP) climb or descent:
    i. This procedure must be requested by the pilot
    ii. The reported distance between the ITP aircraft and any reference aircraft is 15 nm or more
    iii. Both the ITP aircraft and any reference aircraft must be on:
        1. Same identical tracks and any turn at a waypoint shall be limited to less than 45°
        2. Same tracks with no turns permitted that reduce required separation during ITP
    iv. The altitude difference between the ITP aircraft and any reference aircraft shall be 2000 ft or less
    v. No speed, altitude, or route amendments shall be issued to the ITP aircraft and any reference aircraft until the ITP procedure is complete

    vi. Maximum closing speed between the ITP aircraft and each reference aircraft is Mach 0.06
f. Minima based on distance using ADS-C:
    i. 30 nm between aircraft
    ii. Reciprocal track aircraft: the ADS-C position on at least one of the aircraft is beyond the passing point and the aircraft have passed each other by 30 nm
    iii. Aircraft on the same track may be cleared to climb or descend through the level of another aircraft provided:
        1. 15 nm separation exists when the preceding aircraft is at the same speed or faster than the following aircraft OR 25 nm separation exists when the following aircraft is not more than Mach 0.02 faster than the preceding aircraft
        2. The altitude difference between aircraft is not more than 2000 ft
        3. The clearance is for climb descent of 4000 ft or less
g. Minima based on distance without ADS-C:
    i. 50 nm between aircraft that are GNSS equipped
    ii. Separation is established by ensuring that the separation exists between aircraft positions as reported by reference to the same waypoint
    iii. Distance verification must be obtained from each aircraft at least every 24 minutes

A-4 Lateral Separation

a. The lateral separation minima must be maintained between two nonintersecting flight paths
b. Intersecting flight paths:
    i. With constant and same width protected airspace, lateral separation ceases when either aircraft is closer than the required minima to the path of the other aircraft
    ii. With constant but different width protected airspace, lateral separation ceases when either aircraft is closer than the sum of the required minima to the path of the other aircraft
c. Lateral Separation Minima:
    i. 23 nm between aircraft that are simulated to be using ADS-C
    ii. 50 nm between aircraft without ADS-C but with GNSS
    iii. 100 nm between other aircraft
d. Track separation using VOR/VORTAC/TACAN
    i. Consider separation to exist between aircraft established on radials of the same NAVAID that diverge at least 15 degrees when either aircraft is clear of the airspace to be protected for the other aircraft

Divergence-Distance Minima VOR/VORTAC/TACAN

Divergence (degrees)	Distance (mile)	
	FL 230 and below	Fl 240 through FL 450
15-25	17	18
26-35	11	13
36-90	8	11
Note: This table compensates for DME slant range error.		

Divergence-Distance Minima (NDB)

Divergence (degrees)	Distance (mile)	
	FL 230 and below	FL 240 through FL 450
30	15	17
45	13	14
60	9	10
75	7	8
90	6	7
Note: This table compensates for DME slant range error.		

e. Track separation using NDB
   i. Consider separation to exist between aircraft established on tracks of the same NAVAID that diverge by at least 30 degrees and one aircraft is at least 15 miles from the NAVAID
f. Track separation using dead reckoning
   i. Consider separation to exist between aircraft on tracks that diverge by at least 45 degrees when one aircraft is at least 15 miles from the point of intersection of the tracks; this point may be determined visually or by reference to a ground-based navigation aid

A-5 Offshore/Oceanic Transition

a. Course divergence
   i. Aircraft are established on courses that diverge by at least 15 degrees until oceanic lateral separation is established
   ii. The aircraft are horizontally radar separated and separation is increasing at the edge of radar coverage
b. Opposite direction – transition from offshore to oceanic airspace
   i. An aircraft may climb through opposite direction oceanic traffic before the outbound aircraft passes the oceanic boundary and 15 minutes before the aircraft are estimated to pass
c. Same direction – transition from offshore to oceanic airspace
   i. Apply 5 minutes minimum separation when a following aircraft on the same course is climbing through the altitude of the preceding aircraft if the following conditions are all met:
      1. Preceding aircraft is level at assigned altitude and is maintaining a greater speed
      2. The following aircraft is separated by not more that 4000 feet from the preceding aircraft
      3. The following aircraft commences climb within 10 minutes after passing a reporting point which the preceding aircraft has reported, or a radar observed position over which the preceding aircraft was observed
d. Radar separation standards may be applied between a radar identified aircraft and another aircraft not yet identified transiting from oceanic airspace to offshore airspace

A-6 Quick Reference

Longitudinal Separation

- Time-based: 15 minutes, 10 minutes if turbojets
- ADS-C: 30 nm
- Non-ADS-C GNSS: 50 nm, requires position report at least every 24 minutes
- Opposite tracks
  - Vertical separation must exist prior to longitudinal separation falling below minima
  - Vertical separation maintained until proper longitudinal separation exists OR when definite passing is achieved
- Crossing tracks – spacing at the crossing point must be not less than minima

Lateral Separation

- ADS-C: 23 nm
- Non ADS-C GNSS: 50 nm
- Other: 100 nm
- Nonintersecting flight paths: protected airspace does not overlap
- Intersecting flight paths: both aircraft outside the protected airspace of the other's flight path
- VOR track separation: minima based on degrees divergence and altitude
- NDB track separation: minima based on degrees divergence and altitude
- Dead reckoning: tracks diverge by 45°, one aircraft is 15 miles from point of intersection

Offshore/Oceanic Transition

- Courses diverge by 15° until oceanic separation established
- Traffic from domestic to oceanic may climb through opposite direction oceanic inbound traffic if separated by 15 minutes
- Traffic from domestic to oceanic may climb through same direction oceanic traffic if separated by 5 minutes
- Radar separation may be applied between one aircraft already radar identified and inbound to domestic airspace and another aircraft still in oceanic airspace

Appendix B. Phraseology

Control Instructions

- Prefix control instructions with “ATC Clears <Callsign>”
  - Example: “ATC Clears DAL82, maintain Mach .82”
- Altitude instructions should have “report reaching” appended to them
  - Example: “ATC Clears AAL13, climb and maintain FL320, report reaching”

Initial Contact & SELCAL Check

- Pilot will call the radio station twice with the current frequency and their SELCAL code
  - Example: *“San Francisco Radio, San Francisco Radio, AAR212 on 131.950, SELCAL check AB-CD”*
- The radio operator responds by issuing the SELCAL check and stating that position reports are not required (if applicable)
  - Example: *“AAR212, San Francisco Radio, standby for SELCAL check, position reports not required.”*
- The pilot will advise “SELCAL OK” when they receive the SELCAL check

Position Reports

- Position reports are not required for most situations due to ADS-C
- Pilot reports their position, altitude, estimate for next fix, and subsequent fix
  - Example: *“San Francisco Radio, DAL420, ADTIL at 1420z, FL340, estimating AXELE at 1510z, next ADOPE”*
- Radio operator must read back the position report
  - Example: *“DAL420, San Francisco Radio copies ADTIL at 1420z, FL340, estimating AXELE at 1510z, next ADOPE”*
- Pilot will advise if the readback is correct or incorrect

Departure Clearances for Island Airports

- Controllers may have to use lateral separation rules such as dead reckoning or track separation when dealing with more than one aircraft operating in the vicinity of an island airport
- Together with the IFR clearance, instructions to apply appropriate separation must be issued as well as the relevant traffic
  - Example 1: *“Enter controlled airspace at least 15 miles southeast of Majuro airport established on course”* (application of dead reckoning)
  - Example 2: *“Traffic is CMI957, departing Majuro for Kwajalein”* (relevant traffic)

Route Offset

- Offset: *“ATC Clears <Callsign>, offset <Miles> miles <Left/Right> of track. <Instructions to rejoin>”*

Appendix C. Flight Progress Strips

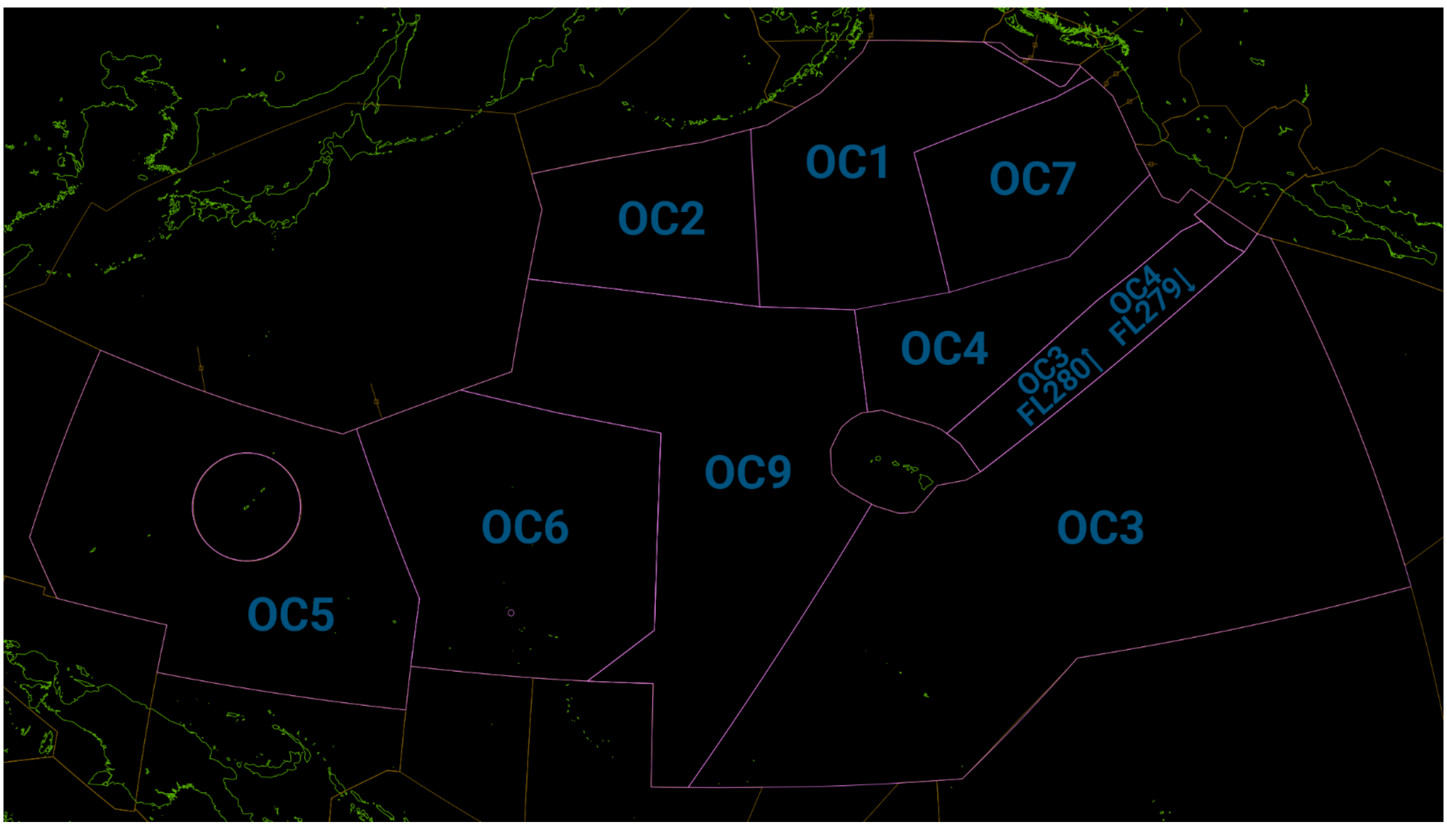
Reserved.

Appendix D. Sectorization

D-1 General Information

a. Controllers are not expected to be familiar with sectorization of the OCA for day-to-day controlling, however, information provided in this appendix is helpful for airspace familiarization
b. The oceanic sectors are made up of individual base sectors within the geographic confines of the airspace, these base sectors provide the capability of dynamic boundary changes between adjacent sectors based on the distribution of traffic and workload
    i. These base sectors can be found on the *BaseSec_0_999* map in vatSys
    ii. On a day-to-day basis (including during events) the sectors outlined in this appendix shall be used; base sectors are noted for flexibility in high traffic situations

D-2 Sectorization Overview



D-3 Positions and Callsigns

a. The following callsigns and relief callsigns shall be used when sectorizing the Oakland OCA:

SECTOR	CALLSIGN	RELIEF CALLSIGN
Combined	**ZAK_FSS**	**ZAK_O_FSS**
OC1	ZAK_1_FSS	ZAK_O1_FSS
OC2	ZAK_2_FSS	ZAK_O2_FSS
OC3	ZAK_3_FSS	ZAK_O3_FSS
OC4	ZAK_4_FSS	ZAK_O4_FSS
OC5	ZAK_5_FSS	ZAK_O5_FSS
OC6	ZAK_6_FSS	ZAK_O6_FSS
OC7	ZAK_7_FSS	ZAK_O7_FSS
OC9	ZAK_9_FSS	ZAK_O9_FSS

D-4 Sector OC1

a. Sector OC1 is a sector in the North Pacific Ocean. No island airports underlie the sector.
b. The PACOTS is a system of routes between North America and Asia that comprises the major traffic flow of Sector OC1. Eastbound PACOTS track are in effect 0700-2300 UTC daily, westbound PACOTS tracks are in effect 1900-0800 UTC daily. Additional traffic includes flights between Alaska and the Hawaiian Islands which occasionally cross the PACOTS tracks. When a conflict occurs between one of these flights and the PACOTS, the preference for altitude assignment is given to the PACOTS aircraft.

D-5 Sector OC2

a. Sector OC2 is a sector in the Pacific Ocean. No island airports underlie the sector.
b. The PACOTS is a system of routes between North America and Asia that comprises the major traffic flow of Sector OC2. Eastbound PACOTS tracks are in effect 0700-2300 UTC daily, westbound PACOTS tracks are in effect 1900-0800 UTC daily. Opposite the eastbound PACOTS operations, a significant number of PACOTS flights traverse Sector OC2 destined for Taipei, Hong Kong, and the Philippines. These flights traverse the sector between approximately 1500 and 1900 UTC.

D-6 Sector OC3

a. Sector OC3 is a sector overlying the Pacific Ocean. Christmas (PLCH), Palmyra (PLPA), Washington (PLWN) and Canton (PCIS) Island airports underlie the sector.
b. Sector OC3 controls a portion of the CEP route system between the Hawaiian Islands and Southern California that accounts for a substantial portion of the sector's traffic. Occasional flights between Northern California and the South Pacific (SOPAC) cross the CEP. Additionally, Sector OC3 controls routes between the SOPAC and both North America and Hawaii. A significant number of flights traverse Sector OC3 destined for the SOPAC, crossing the northbound and southbound traffic to and from the Hawaiian Islands.

D-7 Sector OC4

a. Sector OC4 is a sector overlying the Pacific Ocean. No Island airports underlie the sector.
b. Traffic flows in Sector OC4 are divided into three major areas. The major traffic flow for Sector OC4 is along the northern routes of the CEP route system between the Hawaiian Islands and the California coast. The second flow of traffic is aircraft operating below FL290 between the Hawaiian Islands and the California coast. The final flow of traffic in the sector is just north of R463 where aircraft enroute to and from the Pacific Northwest, Alaska, and Canada must transition to or from the CEP. Flights between Northern California and SOPAC and between Southern California and Asia also cross the CEP.

D-8 Sector OC5

a. Sector OC5 is a sector overlying the West Pacific Ocean. Koror (PTRO), Yap (PTYA), Chuuk/Truk (PTKK), and Pohnpei (PTPN) are the four island airports which underlie the sector.
b. Traffic in Sector OC5 consists of daily north/south flows between Fukuoka ATMC and Port Moresby ACC of flights between Australia/New Zealand and Japan/Korea and flights in and out of the Guam area airports. The major traffic flows occur daily from 1400-1800 UTC and again from 0300-0700 UTC. The four major island airports also generate traffic.

D-9 Sector OC6

a. Sector OC6 is a sector overlying the Pacific Ocean. Among the many airports that lie within the sector are Wake (PWAK), Majuro (PKMJ), Kosrae (PTSA), Bikini (BII), Eniwetok (PKMA), Kwajalein/Bucholz AAF (PKWA), and Roi Namur/Dyess AAF (PKRO).
b. Sector OC6 traffic is made up of island departures/arrivals, aircraft enroute between the Hawaiian Islands and Guam and seasonal PACOTS tracks. The mix of aircraft types and speeds departing/arriving the islands can create complex traffic situations for the controller.

D-10 Sector OC7

a. Sector OC7 is a sector overlying the East Pacific Ocean.
b. The bulk of aircraft in Sector OC7 fly on the PACOTS, a dynamic system of routes between North America and Asia. Eastbound PACOTS tracks are in effect 0700-2300 UTC daily and westbound PACOTS tracks are in effect 1900-0800 UTC daily. Many flights between the Pacific Northwest and the Hawaiian Islands cross the PACOTS tracks. When a conflict occurs between one of these flights and aircraft on the PACOTS, the PACOTS users usually have priority for altitude assignment. ATS Route B453, in the northeast corner of the sector, is heavily used by aircraft traveling between the west coast and Alaska or Asia.

D-11 Sector OC9

a. Sector OC9 is a sector overlying the Pacific Ocean. Midway (PMDY), Kure Island (PM64), and French Frigate Shoals (PHHF) airports underlie the sector.
b. The main traffic flows in Sector OC9 are on the PACOTS, which is a system of routes between North America, the Hawaiian Islands and Asia. Opposite the eastbound PACOTS tracks to the Hawaiian Islands, a significant number of flights routinely traverse Sector OC9 destined for Taipei, Hong Kong, and the Philippines. These flights are generally in the sector between approximately 1200-1600 UTC. When a conflict occurs between one of these flights and aircraft on a PACOTS route, the PACOTS traffic usually has priority for altitude assignment. Eastbound and westbound traffic between the Hawaiian Islands and destinations in Guam and the Philippines add to the complexity, as do varying aircraft types and speeds.
c. A multitude of routes converge in HCF airspace. Sector OC9 must provide oceanic separation for aircraft on converging routes until reaching the HCF boundary.