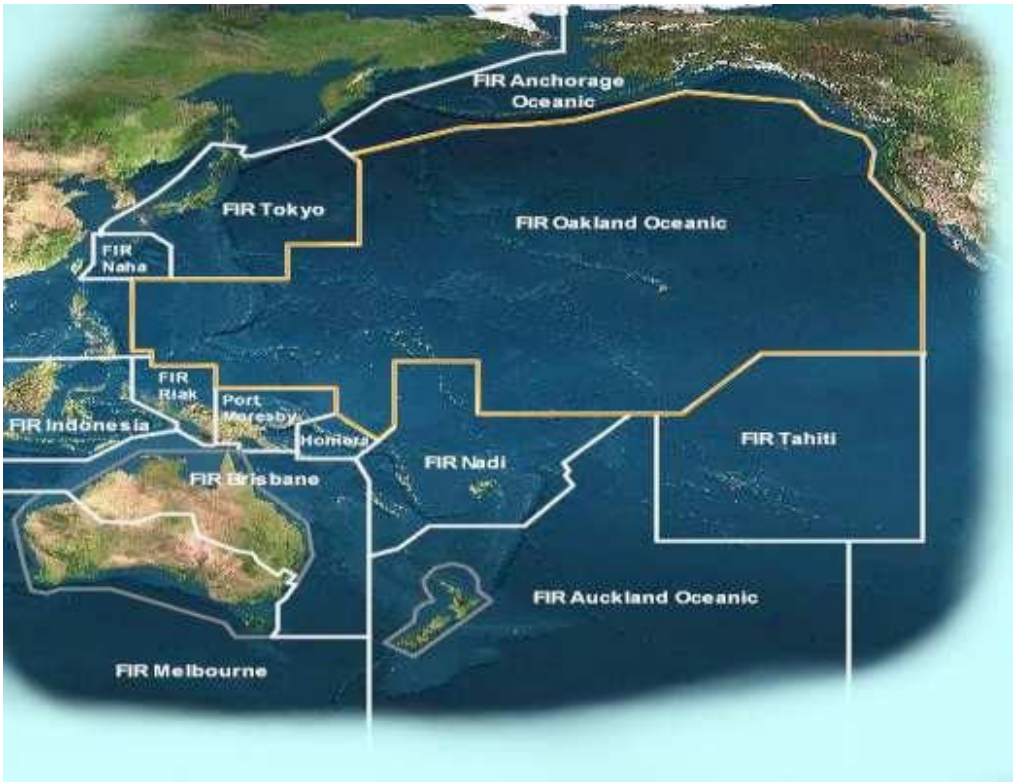
	VATUSA-VATNZ-VATPAC	
	OCEANIC PARTNERSHIP	**EFFECTIVE**
	OAKLAND OCEANIC FSS GENERAL SOP	**1 OCT 2012**

I. PURPOSE

With the establishment of the VATNZ division of the Oceania Region on 1 January 2007, the Oakland Oceanic Sector of VATUSA was combined with the other existing Pacific Oceanic facilities under the Oceanic Partnership Agreement between VATUSA, VATNZ, VATPAC. As such each member organization conducts training of its own Oceanic controllers. Any controller wishing to staff a Pacific Oceanic position must have successfully passed a certification process conducted by one of the member organizations. All controllers certified under this agreement are free to staff any Oceanic Sector in the Pacific area of operation. Every effort will be made to standardize training such that a controller trained by any member facility meets the standards of any other. This **VATUSA** SOP document outlines procedures which are specific to the VATUSA Oakland Oceanic Flight Service Station, and is considered to be an addendum to those contained in the Oceanic Partnership Agreement as revised 7 JULY 2009.

II. BACKGROUND

The Oakland Oceanic FSS is established to provide uniform air traffic services over a large expanse of the Pacific Ocean. In the real world, radar coverage over this large area over the ocean is not possible, and "non-radar" methods are used to insure the separation of aircraft. The objective of this SOP is to set forth simulated non-radar procedures using the radar client program, for controllers manning the Oakland Oceanic Flight Service Station (FSS) position.



III. PROCEDURES

The procedures for operating with the Oceanic FSS are a little different than working with radar-based neighboring ARTCCs/FIRs. Understand that the Oceanic Controller is simulating a "non-radar" position. The oceanic controller is using the radar client program only to facilitate communications, not to separate traffic. He may not be looking at actual targets and data tags on his radar client program. The FSS position will never issue "radar vectors". All separation is done by setting fixed spacing onto the oceanic route system and managing speed and altitude. To accomplish this, a key element is the oceanic clearance covered below.

A. Airspace and Sectorization Plans:

1. The Oakland Oceanic FSS shall own the airspace within the lateral limits, from surface to unlimited, except all airspace of underlying land based facilities when actively manned.

2. Only those sector files available on the "downloads" page of the Oakland Oceanic area of the VATUSA web site are authorized for controlling Oakland Oceanic FSS positions. (At present, this source does not exist; sector files are available from the VATUSA Western Region ATD [vatusa7@vatusa.net])

3. Due to the length in the latitude axis of the airspace and the radio range of the FSS position, it is not possible to operate the entire airspace from one position. Controllers shall man either the the ZAK_E_FSS position or the ZAK_W_FSS position, using the appropriate sector file. These positions may be further subdivided as described below in 5(a)(7). **The east sector must be staffed before the west sector can be staffed.**

4. When sectorized, the highest ranking controller who logged on first shall be designated the "shift supervisor", and shall be responsible for subsequent staffing and sectorization decisions. If the KZAK Facility Lead logs on, he shall assume the role of shift supervisor.

5. A controller requesting to sectorize shall check in with the shift supervisor as an OBS prior to logging into the position.

7. ZAK_E_FSS and ZAK_W_FSS may be subdivided at the discretion of the shift supervisor into as many as four subsectors using the following procedures:

- When dividing a sector, use the communications instructions for callsigns and frequencies listed in 5(b)(4) below.
- Altitude stratification: the airspace may be sectorized by dividing responsibility to altitude blocks.
- Route-based sectors: the airspace may be sectorized by dividing responsibility along a line determined by an oceanic route. For example ZAK_E1_FSS may be delegated the airspace including, and south of, R465 and A450.

B. Frequencies and Callsigns

1. All ZAK FSS positions shall use voice callsign "**San Francisco Radio**".

2. When operating a "full sector" (ZAK_E_FSS or ZAK_W_FSS), use of the FSS facility type is required to insure adequate text radio range.

3. The east sector shall use 131.95 as its frequency and ZAK_E_FSS as text callsign.

4. The west sector shall use 122.50 as its frequency and ZAK_W_FSS as text callsign.

5. When subsectors are activated by the shift supervisor, the subsector shall add a numeral to the text callsign E/W element ie: ZAK_W1_FSS. Frequencies for these subsectors will be assigned as follows:

1st subsector	122.60
2nd subsector	122.55

3rd subsector	122.65
4th subsector	131.90

C. ZLA ARTCC Transfer Control Points

1. ZLA has an "airspace shelf" consisting of a line extending through GALIP, DUETS, EDSEL, FOOTS, WEDES, TONYS and HILCO from FL240 and above. The airspace east of this line including the fixes shall be owned by LAX_CTR and are TCPs (Transfer Control Points) at and above FL240.

D. Oceanic Clearance and Inbound Coordination:

1. When ZAK_E_FSS is online, adjacent ARTCC's are responsible for obtaining an Oceanic Clearance prior to departure for aircraft filing oceanic routes, including Oceanic en route traffic arriving in that ARTCC from another ARTCC.
Since the FSS is not a radar position, do not use the radar client handoff feature to turn aircraft over to the FSS. The FSS needs no interphone call, if no special conditions exist and the aircraft is within five minutes of the estimated TCP time. Just issue the frequency change to the aircraft. Specifically, the following actions should be taken to handoff aircraft:

- Advise the aircraft they are entering the oceanic airspace.
- Issue a beacon code of 2000.
- Terminate radar services.
- Issue a frequency change.

Example: SEA_CTR: "American 1028, Entering the oceanic airspace. Squawk 2000. Radar service terminated. Report position to San Francisco Radio on 131.95."

2. The request for clearance shall consist of the callsign, TCP fix or route number, cruise altitude, and estimated time the flight will reach the TCP fix or FIR boundary.

Examples:

- "AAL1028 R464 FL320 1715Z".
- "Request OC, AAL1028 SEDAR FL350 2312Z"
- "AAL1028 56N52 FL310 0450Z" (aircraft will enter FSS at N56-00.0 W152-00.0)

3. The clearance approval shall consist of the callsign and the controller's operating initials. Optionally include a clearance time, if needed to delay arrival onto the oceanic track. The ARTCC/FIR shall then sequence control and turnover (not handoff) of the flight so as not to arrive before the clearance time. Example: "AAL1028, JC" or "AAL1028, 1730Z JC".

4. If the flight's estimated time of control turnover should become more than 5 minutes different from the clearance time, the ARTCC/FIR must obtain a revised clearance. *Example:* "AAL1028, was SEDAR 1715, now 1720". The FSS may accept or amend the clearance as necessary.

E. Outbound Coordination:

1. If requested, the FSS shall notify the ARTCC/FIR of all aircraft exiting the Oceanic FSS with an estimated time of control transfer. Control transfer **shall occur at least 15 minutes** prior to the aircraft passing the TCP. The ARTCC may request earlier control transfer as long as the aircraft is radar identified (e.g.: "AAL1028, request control"), and this may be granted conditions permitting.

2. The ARTCC/FIR **may** pass a beacon code to the FSS to be passed to the aircraft to facilitate radar identification.

F. VFR Flight:

1. VFR flights may be conducted in the airspace surrounding Pacific Islands within the ZAK FIR:
    a. Between sunrise and sunset
    b. When operating less than 100nm from any landmass
    c. Below FL200

   VFR flight is otherwise prohibited in Oceanic Class A airspace.

G. IFR Routing and altitude:

1. RVSM standards for altitude assignment are in use at and above FL290.

2. IFR aircraft requesting "random" routing (i.e. not on established oceanic routes) should be assigned altitudes below FL220. Separate subsequent flights in the same area vertically.

H. SELCAL

1. The FSS will simulate SELCAL for all voice capable aircraft. An aircraft that has passed a SELCAL check as described below may leave the voice room, so long as they return when summoned by SELCAL or when a subsequent position report is required. (See J 3 below)
NOTE: In VATSIM, SELCAL is less than perfect. Many aircraft may have the same SELCAL code, and some pilot clients allow one SELCAL code to sound in all cockpits which means that you may have multiple aircraft respond to a SELCAL call. It is therefore permissible to use SELCAL on an optional basis and rely on the "contactme" feature to reach aircraft in your sector. This applies to ZAK only.

2. The SELCAL message shall consist of phrase "SELCAL" transmitted on text (meaning "wish-to-talk").

3. When a voice aircraft initially checks in on the FSS frequency they will be instructed to "standby for SELCAL check" and a SELCAL message shall be sent. The aircraft should reply "SELCAL check ok."

4. All subsequent communications on voice shall be prefaced by a SELCAL message. Allow the pilot to respond "answering SELCAL" before passing your message.

5. Some pilots may be using a SELCAL simulation program. If this is the case, ensure that you understand what needs to be done in order to successfully send a SELCAL tone to the pilot. In some cases it will be nothing more than a specific code. No matter what the case may be, test SELCAL functionality to be sure.

6. Pilots who need assistance setting up SELCAL on VATSIM should be given this link:
http://www.vatnz.net/cms/index.php?option=com_content&task=view&id=47&Itemid=159

J. Position Reports:

1. IFR Aircraft are required to submit a properly formatted position report. **All fixes on the oceanic tracks are mandatory reporting points.** Position report elements include:

- Callsign
- Crossed fix, time and altitude
- Next fix approaching, and estimated time to cross
- Next fix
- Mach number
- Groundspeed in knots

2. Should a pilot find that an estimate has subsequently varied by more than 2 minutes since making a position report, the new estimate shall be passed to ATC.

3. If an aircraft fails to report its position with 3 minutes of its estimated time, controllers must attempt to establish contact with that aircraft and obtain a position report.

K. Separation:

1. Aircraft on oceanic routes shall be separated on using one of the following methods:

- Vertical Separation.
- Longitudinal Separation.
- Lateral Separation.
- Composite Separation.

For specific procedures and information in applying these methods, refer to the Training Syllabus.

2. Controllers shall not use traditional radar methods for separation, and every effort shall be made to avoid dependence on the target plan display of the sector file.

L. Time Compression Procedures:

1. To facilitate increased interest by pilots for the Oakland Oceanic FSS, special procedures for time compression flight shall be available to pilots, as follows.

2. Time compression shall be available only for RVSM equipped aircraft at the following altitudes:

- Westbound at 2X - FL380
- Westbound at 4X - FL400
- Eastbound at 2X - FL390
- Eastbound at 4X - FL410

Therefore, these altitude blocks are reserved for time compression flights, and shall not be assigned to aircraft on real time (1x) flight.

3. Pilots shall indicate time-compression in the flight plan comments (e.g.: "2x R464"), as well as indicating the proper cruise altitude.

4. ATC may decline clearance to climb to the time-compression altitude, and change simulation rate due to congestion on the route.

5. Aircraft entering oceanic airspace shall not commence time compression until at least 20 minutes after passing the oceanic entry waypoint. Aircraft leaving oceanic airspace shall cancel time compression at least 20 minutes prior to the applicable oceanic exit waypoint. These 1x segments allow ATC to facilitate sequencing.

6. Aircraft shall be separated by 20 minutes when passing the time-compression start fix. In addition, aircraft will be speed restricted to the slowest Mach number being used on that route.

7. Pilots shall not submit position reports while in time-compressed simulation rates, but must maintain a continuous network connection.

8. ATC shall not authorize a pilot request for step-up / step-down to other the time-compression altitudes, unless the requested routes/flight levels are vacant.

9. Upon resuming 1x simulation rate, pilots must set the simulator clock to actual time to insure accurate position reports.

10. Simulation rates must be 1x on oceanic routes when not using the procedures outlined above.

M. Controller ATIS

1. It is recommended that VATUSA Oceanic Controllers include the following in their text ATIS:

> This is a non-radar environment. Position reports required at each fix. Please report as follows: Callsign, last fix and time crossed, flight level, estimated next fix and time, then next fix, mach number, ground speed. All aircraft squawk 2000 while in Oceanic airspace.

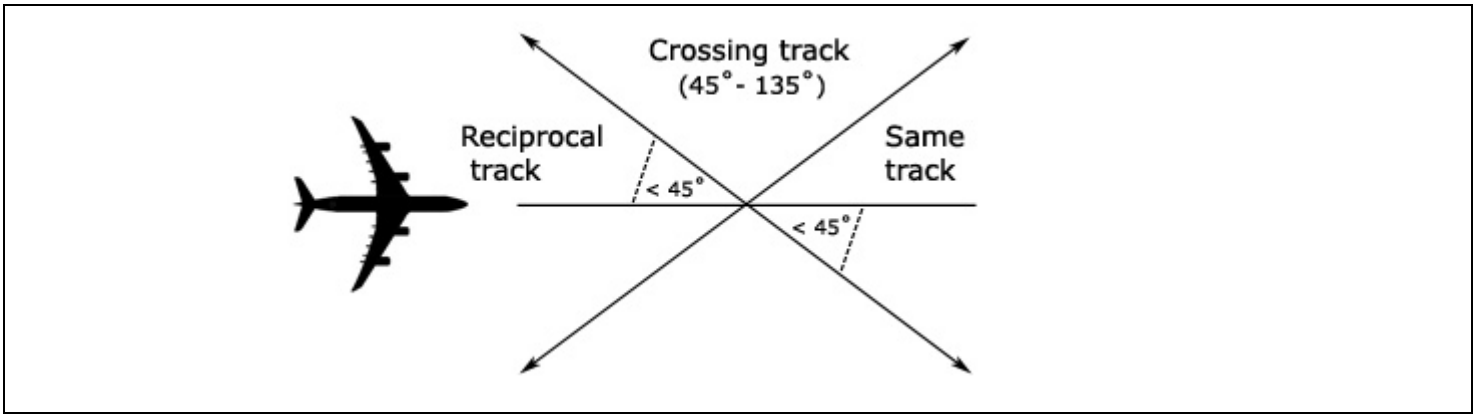
N. Altimeter

Throughout the Oakland Oceanic FIR, a common altimeter setting of 29.92 is used, regardless of altitude. Therefore, flights coming to you below FL180 will need a local altimeter setting.

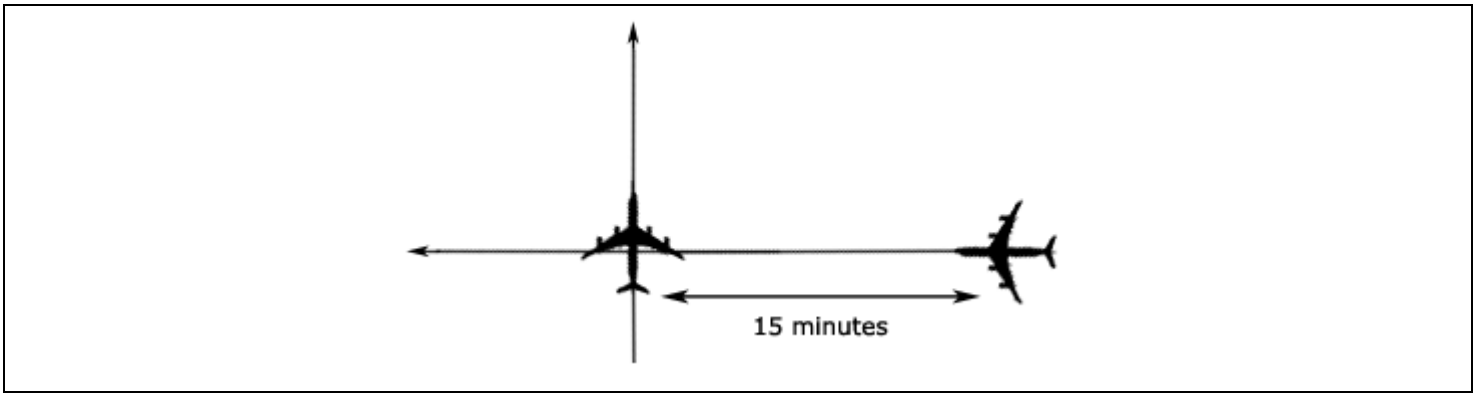
Examples and Diagrams of Separation and Tracking

For the purpose of application of longitudinal separation, the terms *same track*, *reciprocal tracks* and *crossing tracks* shall have the following meanings:

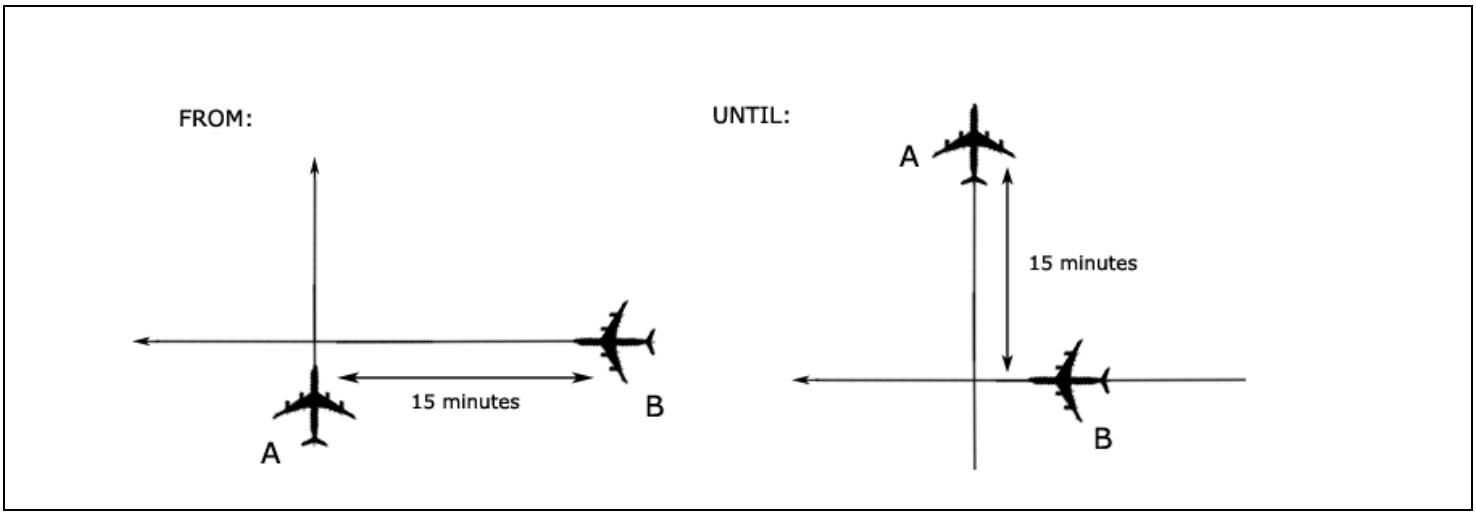
a. **Same & reciprocal tracks** are those that intersect at less than 45 degrees.
b. **Crossing tracks** are those that intersect at or between 45 to 135 degrees



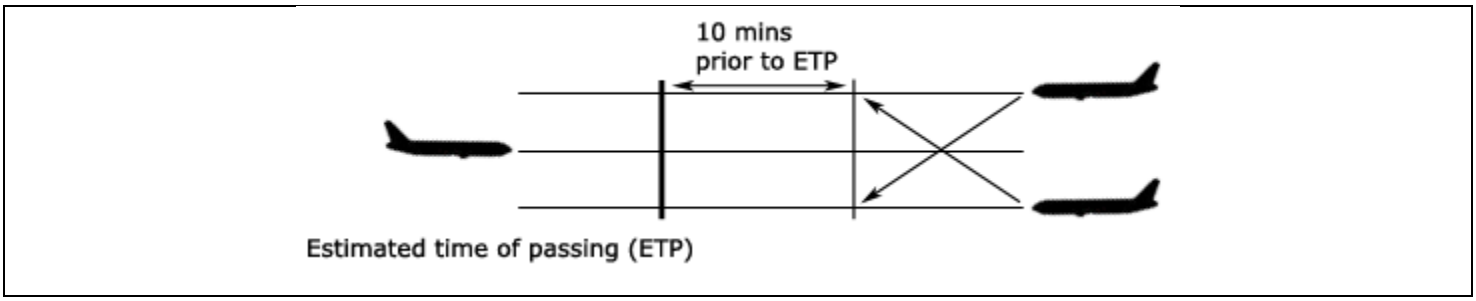
Aircraft flying on *crossing tracks* (including climbs and descents, as above) are to be separated by **15 minutes** at the point of track intersection.



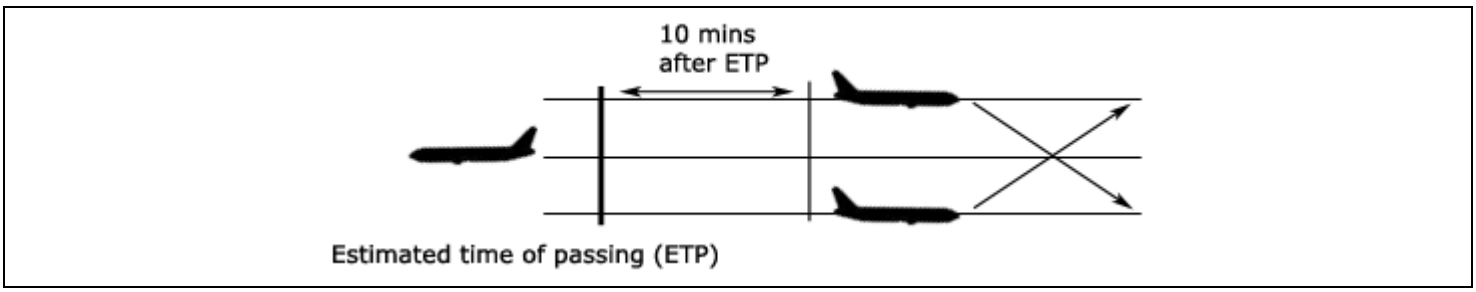
Where 15 minutes does not exist at the crossing point, vertical separation shall be applied from when the *second* aircraft is 15 minutes from the crossing point, until the *first* aircraft is 15 minutes past the crossing point.



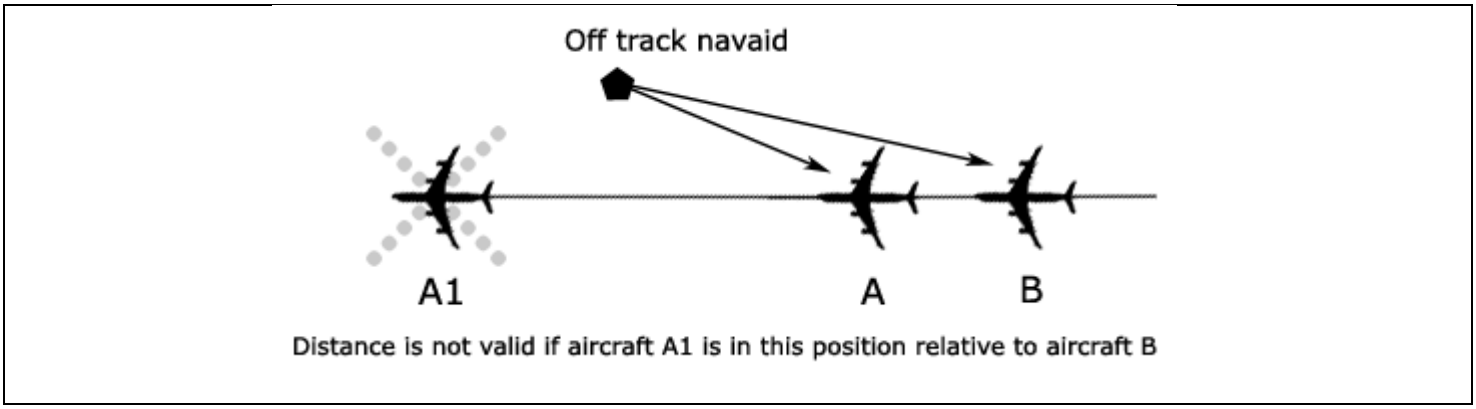
Aircraft flying on *reciprocal tracks* may only be separated **vertically**. Such separation must exist *at least 10 minutes* prior to the estimated **time of passing**.



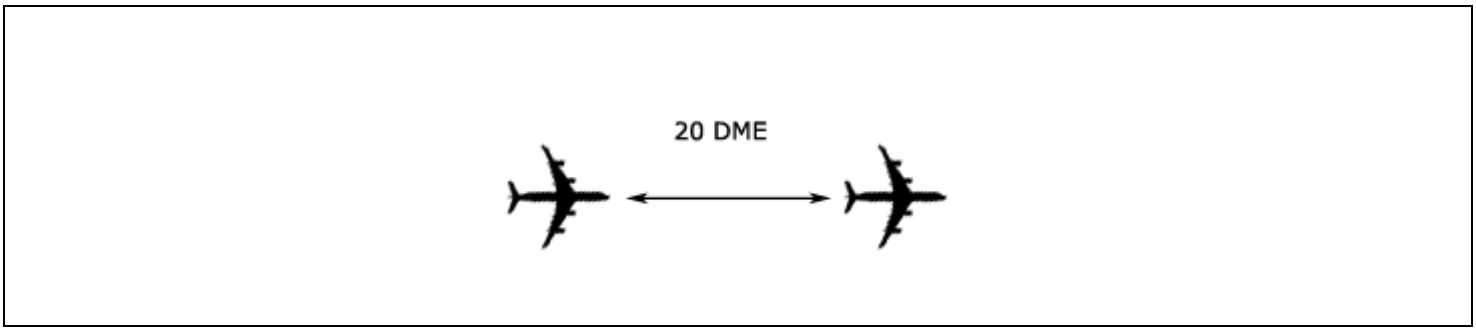
Aircraft may not climb or descend through the opposite direction aircraft's level until 10 minutes after the estimated time of passing, unless definite passing has been achieved.



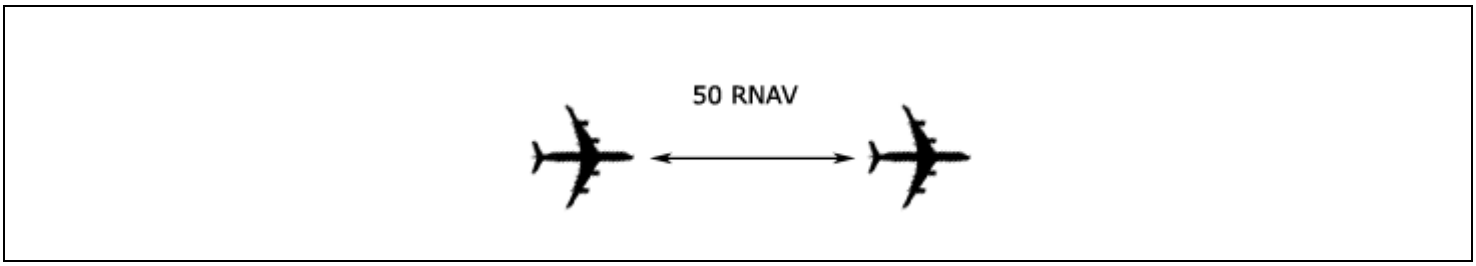
Distance reports using 'Off-Track' navigation aids or waypoints may be used provided that the position of both aircraft is such that the DME readings are increasing or decreasing.



For aircraft on the same track, the minimum standard is 20nm.



RNP10 aircraft climbing, cruising or descending on the same track must be separated by at least 50nm in conjunction with the Mach Number Technique.

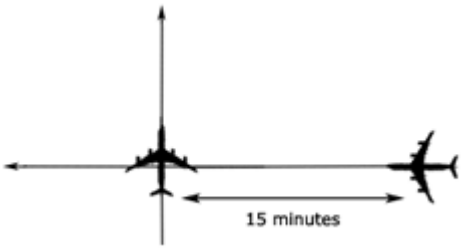


APPENDIX I – OCEANIC QUICK REFERENCE GUIDE

SEPARATION STANDARDS

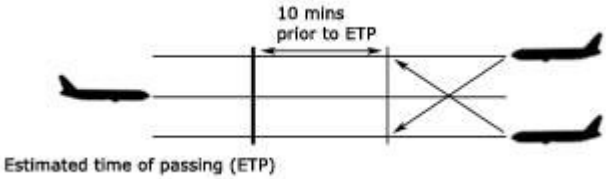
Longitudinal

- □ 10 minutes
- □ 50 RNAV
- □ 20 DME
- □ 15 DME where one aircraft maintains level while other aircraft climbs or descends



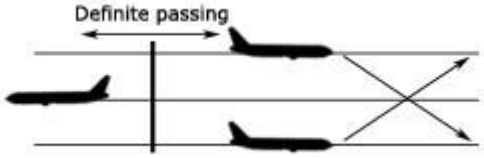
Crossing

- □ 15 minutes at the crossing point; **or**
- □ Separation from the time the second aircraft is 15 minutes from the crossing point, until the first aircraft is 15 minutes past the crossing point.



Opposite direction

- □ Separation from 10 minutes prior to ETP, until 10 minutes after ETP (unless definite passing achieved)



Definite passing

- □ 10 DME
- □ 50 RNAV
- □ Report over positive radio fix (navaid)
- □ Sight & pass