

**Special Procedures for In-Flight Contingencies in Oceanic Airspace for Oceanic Control Areas where
FAA provides air traffic control services**
(Presented by United States of America)

SUMMARY
This paper presents the FAA planned implementation of the amended Special Procedures for In-Flight Contingencies in Oceanic Airspace, which will be published in the Procedures for Air Navigation Service – Air Traffic Management (PANS-ATM) in November 2020.

1. Introduction

- 1.1. The ICAO Separation and Airspace Safety Panel has developed reduced lateral separation minima, which will be published in the PANS-ATM in November 2020. These separation minima require amendment to the PANS-ATM **Chapter 15 Procedures related to emergencies, communication failure and contingencies.**

2. Discussion

- 2.1. Amendment 9 to the PANS-ATM was approved by the President of the Council on 19 May 2020. As noted in State Letter AN 13/2.1-20/27, the Council invited States to implement the provisions of PANS-ATM, as amended.
- 2.2. This Information Paper (IP) informs the Group that the United States will implement the provisions of Amendment 9 to the PANS-ATM Chapter 15, Section 15.2 *Special procedures for in-flight contingencies in oceanic airspace* in its oceanic control areas (CTA) - KZAK, KZWY and PAZA. Included with this IP is a copy of the International Notice with highlights to show the basic changes in the amended procedure. (See Attachment A)
- 2.3. As it applies to aircraft operators, there are three (3) basic changes:
 - 1) The angle to depart “cleared route or track,”
 - 2) the distance to offset from the “route or track,” and
 - 3) the guidance to descend below FL 290.
- 2.4. The International Notice is available at https://www.faa.gov/air_traffic/publications/internationalnotices/intl_2_20012.html. It will be cancelled upon publication of these procedures in the United States Aeronautical Information Publication (AIP). The AIP is scheduled for publication on 31 December 2020.

3. Conclusion

3.1 The meeting is invited to note the information provided.

Attachment A

Special Procedures for In-Flight Contingencies in Oceanic Airspace

Effective Date: The procedures contained in this Notice are effective on **November 5, 2020**.

NOTE–

The FAA will cancel this Notice upon publication of the content in the U.S. Aeronautical Information Publication (AIP).

Purpose: This Notice introduces the International Civil Aviation Organization's (ICAO) new in-flight contingency procedures.

Cancellation: Effective November 5, 2020, the provisions of this Notice supersede the provisions in the U.S. Aeronautical Information Manual (AIM), paragraph 7-1-14 c., *Procedures for Weather Deviations and Other Contingencies in Oceanic Controlled Airspace*, and the U.S. AIP, ENR 7.3., *Special Procedures for In-Flight Contingencies in Oceanic Airspace*.

Applicability: Once effective, these procedures are applicable in **all** FAA-administered oceanic Flight Information Regions (FIR).

1. Introduction:

1. Although all possible contingencies cannot be covered, the procedures in sections B, C, and E provide for the more frequent cases, such as:
 2. Inability to comply with assigned clearance due to meteorological conditions (see section E);
 3. En route diversion across the prevailing traffic flow (for example, due to medical emergencies (see sections B and C); and
 4. A loss or significant reduction of the required navigation capability when operating in airspace where the navigation performance accuracy is a prerequisite to the safe conduct of flight operations; or in the event of pressurization failure (see sections B and C).

NOTE–

*Guidance on procedures to follow when an aircraft experiences a degradation in navigation capabilities can be found in ICAO Doc 4444, *Procedures for Air Navigation Services – Air Traffic Management*, Chapter 5, section 5.2.2.*

The pilot shall take action as necessary to ensure the safety of the aircraft. The pilot's judgement shall determine the sequence of actions to be taken in regard to the prevailing circumstances. Air traffic control shall render all possible assistance.

B. General Procedures:

NOTE—

Figure 1 provides an aid for understanding and applying the contingency procedures contained in sections B and C.

1. If an aircraft is unable to continue the flight in accordance with its ATC clearance, a revised clearance shall be obtained, whenever possible, prior to initiating any action.
2. If prior clearance cannot be obtained, the following contingency procedures should be employed until a revised clearance is received:
 - a. Leave the cleared route or track by initially turning at **least 30 degrees to the right or to the left in order to intercept and maintain a parallel, same direction track or route offset 9.3 km (5.0 NM)**. The direction of the turn should be based on one or more of the following:
 - i. Aircraft position relative to any organized track or route system;
 - ii. The direction of flights and flight levels allocated on adjacent tracks;
 - iii. The direction to an alternate airport;
 - iv. Any strategic lateral offset being flown; and
 - v. Terrain clearance
 - b. The aircraft should be flown at a flight level and an offset track where other aircraft are less likely to be encountered;
 - c. Watch for conflicting traffic both visually and by ACAS (if equipped), leaving ACAS in RA mode at all times unless aircraft operating limits dictate otherwise;
 - d. Turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
 - e. Keep the SSR transponder on at all times and, when able, squawk 7700, as appropriate;
 - f. As soon as practicable, the pilot shall advise air traffic control of any deviation from assigned clearance;
 - g. Use whatever means is appropriate (i.e., voice and/or CPDLC) to communicate during a contingency or emergency;
 - h. If voice communication is used, the radiotelephony distress signal (MAYDAY) or urgency signal (PAN PAN), preferably spoken three times, shall be used as appropriate;
 - i. When emergency situations are communicated via CPDLC, the controller may respond via CPDLC. However, the controller may also attempt to make voice communication contact with the aircraft;
NOTE—Additional guidance on emergency procedures for controllers, radio operators, and flight crew, in data link operations can be found in the Global Operational Data Link (GOLD) Manual (Doc10037).
 - j. Establish communications with nearby aircraft by broadcasting at suitable intervals on 121.5 MHz (or as a backup on the inter-pilot air-to-air frequency

123.45 MHz). Also broadcast where appropriate on the frequency in use: aircraft identification, the nature of the distress condition, intention of the person in command, position (including the ATS route designator or the track code, as appropriate), and flight level; and

- k. The controller should attempt to determine the nature of the emergency and ascertain any assistance that may be required. Subsequent ATC action with respect to that aircraft must be based on the intentions of the pilot and overall traffic situation.

C. Actions to be Taken Once Offset from Track

NOTE—

The pilot's judgement of the situation and the need to ensure the safety of the aircraft will determine whether the actions outlined in C.2.a. or C.2.b. will be taken. Factors for the pilot to consider when diverting from the cleared route or track without an ATC clearance include, but are not limited to: operation within a parallel track system; the potential for User Preferred Routes (UPR) parallel to the aircraft's track or route; the nature of the contingency (for example, aircraft system malfunction); and weather factors (for example, convective weather at lower flight levels).

1. If possible, maintain the assigned flight level until established on the 9.3 km (5.0 NM) parallel, same direction track or route offset. If unable, initially minimize the rate of descent to the extent that is operationally feasible.
2. Once established on a parallel, same direction track or route offset by 9.3 km (5.0 NM), either:
 - a. Descend below FL 290, establish a 150 m (500 ft) vertical offset from those flight levels normally used, and proceed as required by the operational situation or, if an ATC clearance has been obtained, proceed in accordance with the clearance, or

NOTE—

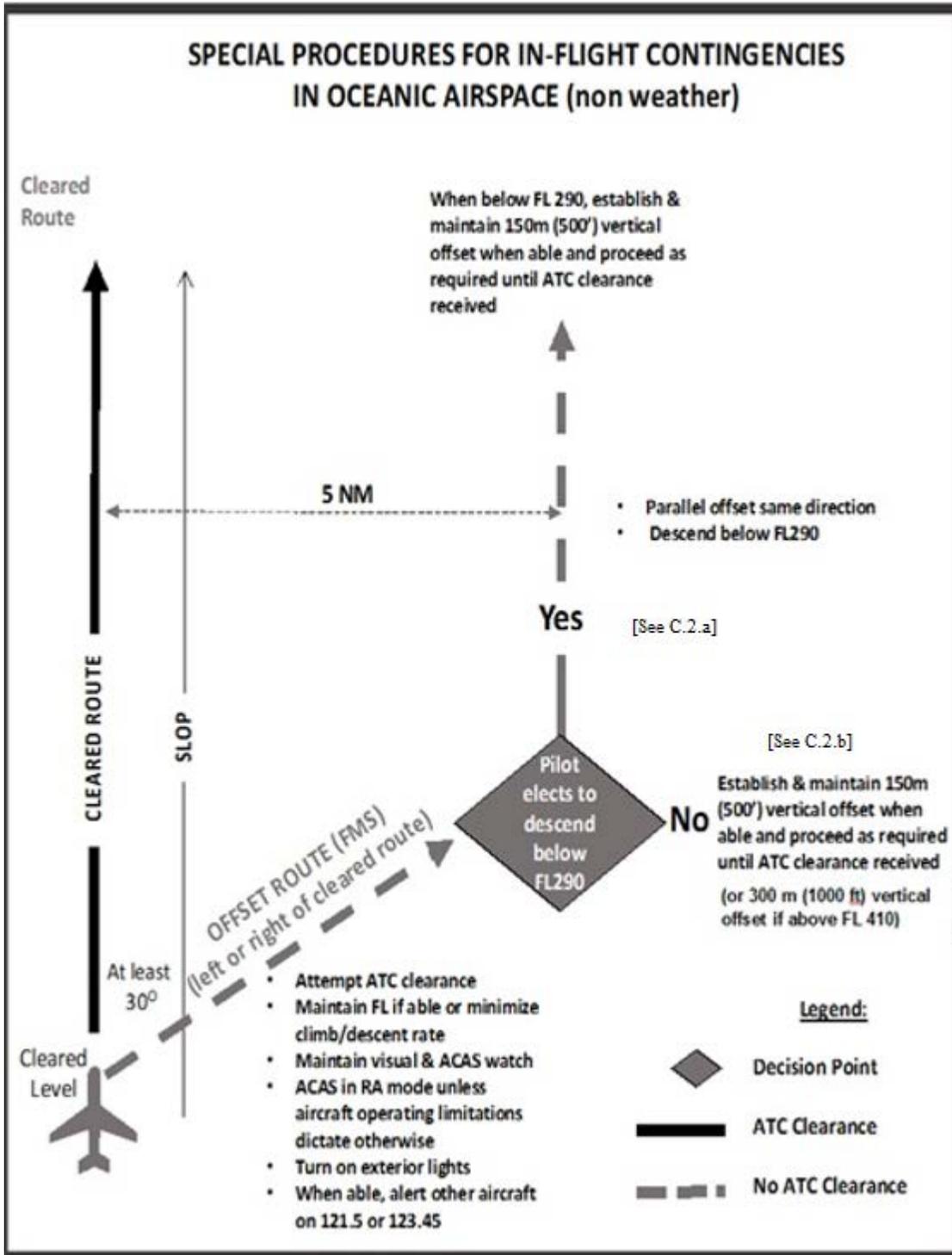
Descent below FL 290 is considered particularly applicable to operations where there is a predominant traffic flow (for example, east–west) or parallel track system where the aircraft's diversion path will likely cross adjacent tracks or routes. A descent below FL 290 can decrease the likelihood of conflict with other aircraft, ACAS RA events, and delays in obtaining a revised ATC clearance.

- b. Establish a 150 m (500 ft) vertical offset (or 300 m (1000 ft) vertical offset if above FL 410) from those flight levels normally used, and proceed as required by the operational situation, or if an ATC clearance has been obtained, proceed in accordance with the clearance.

NOTE— Altimetry system error may lead to less than actual 150 m (500 ft) vertical separation when the procedure above is applied. In addition, with the 150 m (500 ft) vertical offset applied, ACAS RAs may occur.

Figure 1

Visual aid for understanding and applying the contingency procedures guidance



D. Extended Range Operations by Airplanes with Two-Turbine Power-Units (ETOPS)

NOTE–

This section is unchanged from the AIP contents; it is added here to aid the reader

1. If the contingency procedures are employed by a twin-engine aircraft as a result of an engine shutdown or failure of an ETOPS critical system, the pilot should advise ATC as soon as practicable of the situation, reminding ATC of the type of aircraft involved, and request expeditious handling.

E. Weather Deviation Procedures

1. General

NOTE–

The following procedures are intended for deviations around adverse meteorological conditions.

a. When weather deviation is required, the pilot should contact ATC via CPDLC or voice. A rapid response may be obtained by either:

1. Stating, “WEATHER DEVIATION REQUIRED” to indicate that priority is desired on the frequency and for ATC response; or
2. Requesting a weather deviation using a CPDLC lateral downlink message.

b. When necessary, the pilot should initiate the communications using the urgency call “PAN PAN” (preferably spoken three times) or by using a CPDLC urgency downlink message.

c. The pilot shall inform ATC when a weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

2. Actions to be Taken When Controller-Pilot Communications Are Established

a. The pilot should notify ATC and request clearance to deviate from track or route, advising when possible the extent of the deviation requested. The flight crew will use whatever means are appropriate (i.e., CPDLC and/or voice) to communicate during a weather deviation.

NOTE–

Pilots are advised to contact ATC as soon as possible with requests for clearance in order to provide time for the request to be assessed and acted upon.

b. ATC should take one of the following actions:

1. When appropriate separation can be applied, issue clearance to deviate from track; or
2. If there is conflicting traffic and ATC is unable to establish appropriate separation, ATC should:
 - a. Advise the pilot of inability to issue clearance for the requested deviation;
 - b. Advise the pilot of conflicting traffic; and

- c. Request the pilot's intentions.
- d. The pilot should take one of the following actions:
 - i. Comply with the ATC clearance issued; or
 - ii. Advise ATC of intentions and execute the procedures provided in paragraph 3.

3. Actions to be Taken if a Revised ATC Clearance Cannot Be Obtained

NOTE–

The provisions of this paragraph apply to situations where a pilot needs to exercise the authority of a pilot-in-command under the provisions of ICAO Annex 2, 2.3.1.

a. If the aircraft is required to deviate from track or route to avoid adverse meteorological conditions, and prior clearance cannot be obtained, an ATC clearance shall be obtained at the earliest possible time. Until an ATC clearance is received, the pilot shall take the following actions:

1. If possible, deviate away from an organized track or route system;
2. Establish communications with and alert nearby aircraft by broadcasting at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or as a backup, on the inter-pilot air-to-air frequency 123.45 MHz);
3. Watch for conflicting traffic both visually and by reference to ACAS, if equipped;
4. Turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
5. For deviations less than 9.3 km (5.0 NM) from the originally cleared track or route, remain at a level assigned by ATC;
6. For deviations greater than or equal to 9.3 km (5.0 NM) from the originally cleared track or route, when the aircraft is approximately 9.3 km (5.0 NM) from track, initiate a level change in accordance with Table 1;
7. If the pilot receives clearance to deviate from the cleared track or route for a specified distance and subsequently requests but is denied clearance to deviate beyond that distance, the pilot should apply an altitude offset in accordance with Table 1 immediately;
8. When returning to track or route, the aircraft should be at the previously assigned flight level prior to a point 9.3 km (5.0 NM) from the route centerline.

b. If contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

NOTE–

If, as a result of actions taken under the provisions of E.3.a. above, the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft as necessary to avoid conflict.

Table 1

Altitude Offset When Denied Clearance to Deviate 9.3 km (5.0 NM) or More

Originally Cleared Track or Route Center Line	Deviations ≥ 9.3 km (5 NM)	Level Change
+++++ EAST (000° - 179° magnetic)	+++++ LEFT RIGHT	+++++ DESCEND 90 m (300 ft) CLIMB 90 m (300 ft)
+++++ WEST (180° - 359° magnetic)	+++++ LEFT RIGHT	+++++ CLIMB 90 m (300 ft) DESCEND 90 m (300 ft)

(Flight Operations Group, Flight Technologies and Procedures Division, Flight Standards Service, September 2020)