



**THE FORTY-EIGHTH MEETING OF THE
INFORMAL PACIFIC ATC CO-ORDINATING GROUP PROVIDERS
MEETING
(IPACG/48)**

FAA Northwest Mountain Regional Office - Des Moines, Washington
September 27, 2023

Agenda Item 5: ATM Issues

**Introduction of offset climb/descent procedure and 12 NM lateral separation minimum into Fukuoka
FIR oceanic airspace**

(Presented by Japan Civil Aviation Bureau)

SUMMARY

This paper provides information about implementation plan of offset climb/descent procedure and 12 NM lateral separation minimum applicable while one aircraft climbs/descends through the level of another aircraft.

1. Introduction

1.1. Japan Civil Aviation Bureau (JCAB) has introduced various reduced separation minima in the past. Currently, 30 NM longitudinal separation in cruising level, 15 NM longitudinal separation during climb or descent, and 30 NM lateral separation are available as minimum separation standards.

1.2. Even though the separation minima were reduced, some cases where the aircraft can not take their optimum altitude due to blocking aircraft are still observed.

1.3. As a solution for the aircraft to fly at the optimum altitude, JCAB will introduce the offset climb/descent procedure into Fukuoka FIR oceanic airspace. Additionally, in order to minimize offset distance, JCAB will also introduce 12 NM lateral separation minimum during climb or descent.

2. Discussion

Offset climb/descent procedure

2.1. The offset climb/descent procedure allows aircraft to access to the requesting altitude by offsetting from original cleared route. The instruction to offset from the original cleared route and to rejoin the cleared route will be issued by controllers.

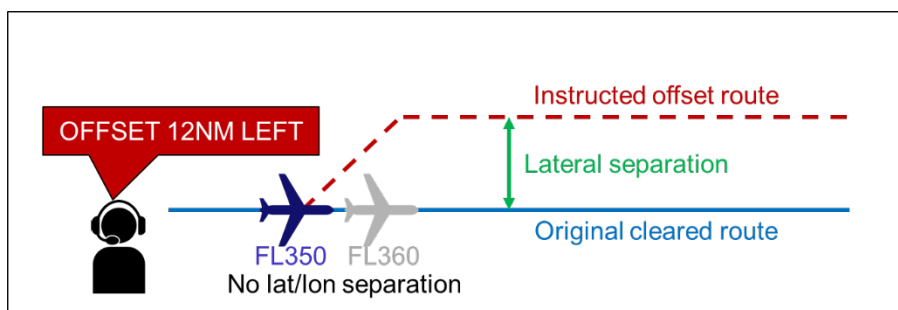
2.2. The pilots can request offset climb/descent, for example, when the altitude change request of 2000ft or more was rejected by controllers. And also, controllers may suggest offset climb/descent to the pilot.

2.3. The offset climb/descent procedure in Fukuoka FIR will be executed by the following procedure. Although CPDLC is indicated as the examples, it can also be applied to HF voice communication.

2.3.1. The controller instructs the aircraft to offset from the original cleared route in order to establish lateral separation from blocking aircraft. The offset distance varies depending on the required lateral separation. Although the FANS 1/A CPDLC support the clearance message to offset, there is no downlink message set to indicate that the aircraft has established on offset route. Therefore, the request for reporting establishment on offset route will be composed by free text in case of clearance by CPDLC.

Example

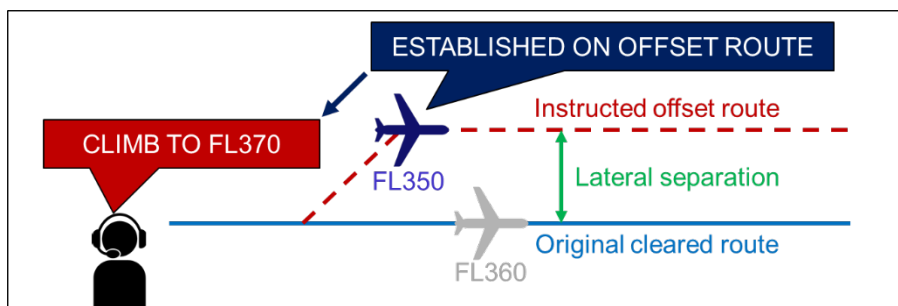
Controller	LATU-1 (UM64) OFFSET 12 NM LEFT OF ROUTE TXTU-1 (UM169) FOR CLIMB TXTU-1 (UM169) REPORT ESTABLISHED ON OFFSET ROUTE
Pilot	RSPD-1 (DM0) WILCO



2.3.2. After the controllers confirmed that the aircraft established on offset route, they will issue the clearance to climb or descend. The pilot should keep on offset route, unless the controller issues the instruction to be back on route.

Example

Pilot	TXTD-1 (DM67) ESTABLISHED ON OFFSET ROUTE
Controller	LVLU-6 CLIMB TO FL370 (UM20 CLIMB TO AND MAINTAIN FL370) LVLU-24 REPORT MAINTAINING FL370 (UM129 REPORT LEVEL FL370)
Pilot	RSPD-1 (DM0) WILCO

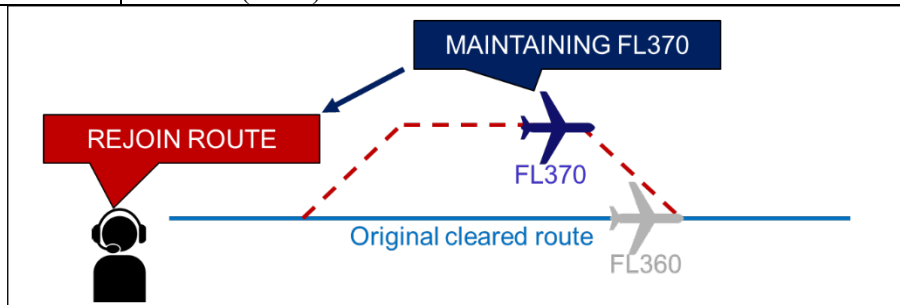


2.3.3. Once the controller confirmed the aircraft reached assigned altitude and established vertical separation from blocking aircraft, the instruction to be back on route is issued. In order to confirm that the aircraft established on original cleared route, "REPORT BACK ON ROUTE" message is concatenated with the instruction.

Example

Pilot	LVLU-9 MAINTAINING FL370 (DM37 LEVEL FL370)
Controller	LATU-6 REJOIN ROUTE (UM67 PROCEED BACK ON ROUTE)

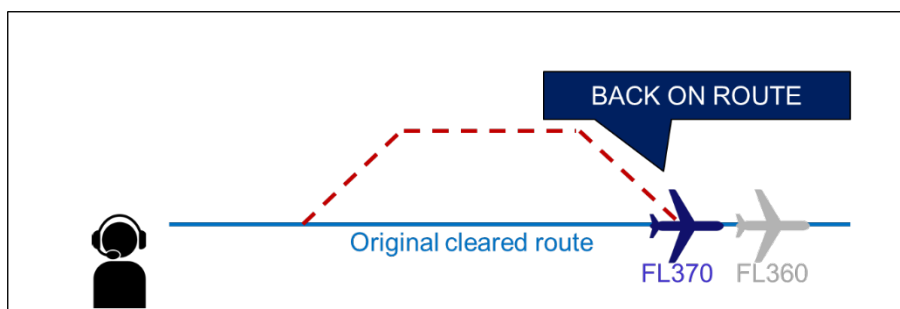
	LVLU-18 (UM127) REPORT BACK ON ROUTE
Pilot	RSPD-1 (DM0) WILCO



2.3.4. When the aircraft established on original cleared route, the pilot shall send “BACK ON ROUTE” message.

Example

Pilot	LATD-4 (DM41) BACK ON ROUTE
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12 NM lateral separation minimum

2.4. As described in 2.2.1, the offset distance in offset climb/descent procedure varies depending on the required lateral separation minimum. In order to minimize offset distance, JCAB will introduce 12 NM lateral separation minimum applicable while one aircraft climbs/descends through the level of another aircraft.

2.5. The 12 NM lateral separation minimum had been incorporated into PANS-ATM in 2020. The separation minimum is applicable in the airspace where Strategic Lateral Offset Procedure (SLOP) up to 2 NM is authorized. The separation is applicable when one aircraft climbs/descends through the level of another aircraft, and both aircraft are required RNP 4, RCP 240 and RSP 180 approved.

PANS-ATM 5.4.1.2.1.6

5.4.1.2.1.6 *Lateral separation of aircraft on parallel or non-intersecting tracks or ATS routes.* Within designated airspace or on designated routes, lateral separation between aircraft operating on parallel or non-intersecting tracks or ATS routes shall be established in accordance with Table 5-2:

Table 5-2. Lateral separation of aircraft on parallel or non-intersecting tracks or ATS routes

Minimum Spacing Between Tracks		Performance Requirements			Additional Requirements
<i>Airspace where SLOP is not authorized, or is only authorized up to 0.5 NM</i>	<i>Airspace where SLOP up to 2 NM is authorized</i>	Navigation	Communication	Surveillance	
93 km (50 NM)	93 km (50 NM)	RNAV 10 (RNP 10) RNP 4 RNP 2	Types of communication other than direct controller-pilot VHF voice		
37 km (20 NM)	42.6 km (23 NM)	RNP 4 RNP 2	RCP 240	RSP 180	Conformance monitoring shall be ensured by establishing an ADS-C event contract specifying a lateral deviation change event with a maximum of 5 NM threshold and a waypoint change event
37 km (20 NM)	42.6 km (23 NM)	RNP 2 or GNSS equipage	Types of communication other than direct controller-pilot VHF voice		While one aircraft climbs/descends through the level of another aircraft remaining in level flight
27.8 km (15 NM)	33.4 km (18 NM)	RNP 2 or GNSS equipage	Direct controller-pilot VHF voice communications		
16.7 km (9 NM)	22.3 km (12 NM)	RNP 4 RNP 2	RCP 240	RSP 180	While one aircraft climbs/descends through the level of another aircraft remaining in level flight
13 km (7 NM)	19 km (10 NM)	RNP 2 or GNSS equipage	Direct controller-pilot VHF voice communications		While one aircraft climbs/descends through the level of another aircraft remaining in level flight

2.6. After the NOPAC redesign project is completed, the distance between each route within the NOPAC route system will be reduced to 25 NM. The 12 NM lateral separation minimum allows offset climb/descent in NOPAC route system after the redesign project.

Implementation plan

2.7. JCAB plans to begin operational trial of the offset climb/descent procedure and 12 NM lateral separation minimum in Fukuoka FIR oceanic airspace in the first half of 2024 after airspace safety assessment and evaluation of the updated software.

2.8. The details and start dates of the operational trials will be informed by AIP Supplement.

3. Conclusion

3.1 The meeting is invited to note the information provided.