

## Weather Deviation

### SUMMARY

This paper follows up on WP7 and WP12 presented at ISPACG/31 in Honolulu, Hawaii 2017 and WP05 presented as a follow up at ISPACG/32 Nadi, FIJI 2018 regarding large-scale weather deviation requests within the South Pacific.

This paper highlights the difficulties large deviation requests have on air traffic and other airline operators.

## 1. INTRODUCTION

- 1.1 It is common for airlines to request, and ATSU's to approve, multiple weather deviation clearances for a single flight particularly during the Southern Hemisphere's summer season.
- 1.2 The way in which weather deviation requests are made and executed by aircrew varies between individual airlines.
- 1.3 The way in which aircrews return to route once clear of weather also differs.

## 2. DISCUSSION

- 2.1 Crews appear to request deviations either side of track to have options available without the need to request subsequent clearances.
- 2.2 Inefficient/excessive deviations can create unnecessary coordination as the flight is passed to the next ATSU. In many cases the deviation needs to be trimmed/reviced as the flight converges with others near destination.
- 2.3 Excessive requests:
  - Is 100nm L& R of route considered reasonable? In many cases this could be an inefficient use of airspace that impacts other airspace users. A suggested approach could be to consider clearing 20nm either side and then advising the aircraft to request further in the required direction.
  - Some aircraft cross FIR boundaries and request large deviations upon first contact for no apparent reason, ie 100nm with no supporting forecast weather or the request is made on the 'potential weather' ie SIGMETs and forecasts in the hours ahead.
- 2.4 Procedure application: The following situations are examples of regular occurrence.
  - Aircraft on a single side deviation wishing to cross route to the other side must report back on route or make a request for both sides prior to taking up the new deviation. If both sides have been requested for this purpose, then release the airspace after the cross

by making a new weather deviation request for the required weather deviation direction and distance.

- Aircraft on a deviation observed tracking toward the next waypoint which could be a considerable distance away instead of regaining route in a timely fashion and reporting established.
  - Aircraft off track for some time utilizing the ‘offset’ function are observed on ADS paralleling track. A crew change or elapsed time has resulted in the crew overlooking they are not on track.
  - Aircraft retaining a deviation approval for extended periods of time, and being unwilling to give up the deviation, whilst observed back on track.
  - A delay in re-sequencing of waypoints making PRR estimates inaccurate-this can be significant and have an impact on separation.
  - Crew creating a waypoint in the FMC following a significant deviation and then proceeding direct to the next FPL waypoint.
1. *The FMC now considers the flight to be on route”. The FMC may have the capability to send an automated message or prompt the crew to report “back on route”. The ANS system now expects the aircraft to be back on the FPL route. Then comes the next ADS position report, out of conformance.*
  2. *If a subsequent deviation is requested before the next waypoint, there could be a substantial difference between the crew/FMC understanding and the ANS providers coverage of the lateral separation protection.*

2.6 Return to route once clear of weather:

4.4.2 Free Text GOLD Manual – “The flight crew should only use a free text message element when as appropriate standard message element does not exist.”

Use of the standard DL ‘back on route’ should be used when able.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) Comment on the paper.
- b) Work with and encourage airline operators to include information regarding large scale weather deviations into tech refresher, cyclical training programs and Instructor Teams that;
  - Ensure aircrew use the appropriate down link messages when requesting weather deviations and when reporting back on route.
  - Ensure aircrew follow correct procedures when on a weather deviation and return to the cleared route, and report back on route, when the deviation is no longer required.

- Ensure aircrew are aware the ‘banking’ of airspace for future use or holding on to a previous weather deviation is not good practice and may restrict altitude change options.
- Consider a single direction from flight plan track rather than nominally request “either side”.
- Consider the magnitude of the deviation.
- Understanding that operating in a block of levels while holding or requesting weather deviations can have a significant impact on the flight itself and other airspace users.