June 2009

Oceanic Errors Safety Bulletin (OESB)
OESB-01-09

ICAO North Atlantic Working Groups composed of industry, ATC and state regulators have noted repetitive oceanic errors. These include **Gross Navigation Errors** (25 NM or more), **Large Height Deviations** (300 feet or more) and **Erosion of Longitudinal Separation**. Operators are reminded that the safety of the airspace is constantly monitored and its performance is reviewed. Thus, repeated errors present a recurring hazard and pose a threat not only to overall flight safety but also planned reductions in separation. It is important that operators have a continuous analysis process to evaluate oceanic errors in order to meet the ICAO Safety Management System (SMS) standards.

This OESB is intended for distribution to industry and training centers. The OESB will also be posted on various websites to enable broad distribution and rapid updates. In addition, the OESB should be used in conjunction with the guidance detailed in the current edition of the NAT MNPS Operations Manual (2008 Edition) www.nat-pco.org.
Questions and comments should be addressed to natcma@nats.co.uk.

Operators should consult www.nat-pco.org for the most current version of the OESB.

A **sample oceanic checklist** also has been developed using many of the recommendations found in this OESB. The sample oceanic checklist can be viewed at www.nat-pco.org.

The following are recommendations to reduce oceanic errors that should be addressed in initial and recurrent ground training:

Gross Navigation Errors (GNEs)

1. Fly the clearance – not the flight plan.

2. A reclearance scenario is the prime cause for most navigational errors. Crews must ensure they correctly copy the RECLEARANCE, reprogram (and execute) the FMS (or Long Range Navigation System, LRNS), update the Master Computer Flight Plan (CFP) and update the plotting chart. The FMS crosschecks for the clearance should include distance and track checks between the new waypoints.

   NOTE: Track and distance tables are available commercially for every ten degrees of longitude.

3. Crews must follow a RECLEARANCE (and not the previous flight plan). The captain should assure that all flight crew members are aware of the details of the RECLEARANCE by briefing all non-flying crew members.

4. Ground crosschecks of the Long Range Navigation System (LRNS) should include distance and track checks between waypoints. Enroute procedures must also include distance and track checks when passing a waypoint.

5. The crosscheck of the FMS coordinates should include comparing the expanded coordinates against the flight plan.

6. Mandatory use of the plotting chart should include a 10 min plot (after waypoint) noting the coordinates and time on the chart. Compare all oceanic waypoints on the chart against the Master CFP.

7. Standard Operating Procedures (SOPs) for LRNS must include **independent** clearance copy, data entry (Coordinates and/or waypoints), and **independent** crosschecks to verify that the clearance is correctly programmed. These procedures must also be used when en route changes are entered. This task cannot be delegated.

8. There should only be one computer flight plan on the flight deck and it should be labeled the Master.

9. Crews must be alert for similar sounding named oceanic boundary waypoints (e.g. PITAX versus BERUX) when receiving the ATC clearance.

Large Height Deviations

1. Conditional clearances require special attention. A conditional clearance is an ATC clearance given to an aircraft with certain conditions or restrictions such as changing a flight level based on a UTC time or a specific geographic position. The following is an example of a conditional clearance given to a crew:

   Maintain FL330. After passing 20W climb to FL350. Cross 25W level. Report leaving. Report reaching.
   NOTE – In this example, FL330 is the present FL.

   The main part of this clearance is that **after** 20W the aircraft starts the climb and is maintaining the cleared level **prior** to 25W.

2. In oceanic non radar RVSM airspace during a climb or descent, crews must advise ATC when leaving and reaching a Flight Level.

3. Each Flight Level change must be specifically approved by ATC. A filed flight plan with a requested change in Flight Level (step climb) is not a clearance to initiate the change in altitude.

4. Crews must ensure a CORRECT understanding of when a climb or descent should be initiated or completed.

5. Crews must exercise caution and ensure a clear understanding when ATC uses the terms “by” or “at” when referring to a longitude crossing (for example when to make a Flight Level change). This applies whether the clearance is given via voice or data link.

6. Crews must be alert for situations when ATC issues clearances that have only a longitude rather than a latitude and longitude. The clearance should be clearly understood as to when to make a Flight Level change.

7. Crews must ensure they are following the correct contingency procedure in case of lost communications. Unlike other oceans, the NAT lost communications procedure is to

maintain the last assigned Flight Level. ATC approval is required for all Flight Level changes.

8. Crews must ensure they obtain an OCEANIC clearance level prior to oceanic entry, enter the ocean at the cleared Flight Level and establish a post entry point altitude check.

Erosion of Longitudinal Separation

1. Crews must communicate to ATC any ETAs that change by **3 minutes** or more. This is an ICAO requirement and the information is used to modify ground-based ATC flight tracking systems.

2. Crews must adhere to the assigned (True) Mach. Operators flying Long Range Cruise or ECON to conserve fuel are having a negative impact on the strict tolerance required for ATCs longitudinal separation.

3. Crews should verify the accuracy of ETAs or ATAs (particularly the hour) forwarded to ATC to prevent an error of one hour.

4. Crews must ensure they advise ATC in a timely manner of any change in their ETA for the oceanic entry point.

5. Crews must ensure that the aircraft master clock (typically the FMS) is set using an approved calibrated time source to be used for all ETAs and ATAs.

Flight Planning

1. Dispatchers and Flight Planners must ensure the filed routes around the oceanic boundary do not include crossing multiple oceanic entry/exit points.

2. Pilots must ensure they know current conditions to include NOTAMS (e.g. forecast turbulence in RVSM airspace) and weather documents (e.g. ETPs and alternate airports). In addition, pilots must be knowledgeable in the information on the computer flight plans and do basic crosschecks of fuel, winds and groundspeeds.

Controller Pilot Data Link Communications (CPDLC)

1. Conditional clearances require special attention. A conditional clearance is an ATC clearance given to an aircraft with certain conditions or restrictions such as changing a flight level based on a UTC time or a specific geographic position. The following is an example of a CPDLC conditional clearance given to a crew.

   At approximately 1133Z a CPDLC message composed of the following uplink message elements (UM) was sent to the flight:

   UM19 – MAINTAIN F370
   UM21 – AT 1205 CLIMB TO AND MAINTAIN F380
   UM128 – REPORT LEAVING F370
   UM129 – REPORT LEVEL F380

The expected WILCO response was received. At approximately 1134Z a CPDLC message composed of the following downlink message element (DM) was received by the OAC:

DM28 – LEAVING F370

The air traffic controller took immediate action to confirm the flight level and to issue a clearance via voice for the flight to expedite climb to a flight level that ensured vertical separation.

NOTE: The receipt of the LEAVING F370 message enabled prompt action to correct this error.

2. Upon receipt of a CPDLC uplink message, it is important for both pilots to independently and silently read and verify the clearance.

3. It is important to note that the CPDLC uplink message may be more than 1 page in length. Review the entire message carefully, in the correct order, before taking any action. It may be helpful to print the message.

4. Both pilots should resolve any questions that they may have regarding the clearance with each other and if necessary with ATC prior to initiating any action. If unable to fully understand the CPDLC clearance, pilots should revert to backup voice communication.

5. Pilots should not use voice to verify that an up-linked CPDLC message has been received or to inquire if a down-linked datalink message has been received by the ATS provider.

6. Crews should be cautious with CPDLC clearances (message sets) that are delayed.

7. Crews should be cautious with clearances when communicating via CPDLC and HF radio simultaneously. CPDLC is the primary communication means when it is operating. The clearance is received from that [CPDLC] source only.

8. Crews should avoid using the free-text method.

9. Crews should be sure that HF SELCAL is working even when CPDLC is functioning properly – do a SELCAL check prior to oceanic entry and at each Oceanic Control Area (OCA) boundary.

General

1. Dual checking of oceanic clearance MUST be SOP (avoid physiological breaks or distractions near the oceanic boundary or when copying and reprogramming enroute reclearances). Changes must be communicated clearly to non-flying flight crew members so that they understand RECLEARANCES when they relieve flying flight crew members.

2. Radio operators relay for/to controllers. The majority of oceanic communications such as position reports or crew requests go through a radio operator. The radio operator is not an air traffic controller. Radio operators must relay all reports and requests to ATC for approval and processing.

3. The use of the terms “expect” or “able” by ATC is NOT a clearance. Typical phraseology is to use, “ATC clears….”.

4. Relays of ATC instructions between aircraft MUST be accurate. Ensure a correct read back is received from every communication link in the relay.

5. Always read from the LRNS or the plotting chart back to the master source (i.e. CFP). This is a human factor’s issue that could prevent the pilot from seeing what he/she expects to see.

6. Crews must immediately clarify any confusion about the clearance.

SLOP – Strategic Lateral Offset Procedures

1. Crews should be aware of this procedure for use in oceanic and remote airspace. SLOP should be a SOP, not a contingency, and operators should be endorsing the use of lateral offsets for safety reasons on all oceanic and remote airspace flights.

2. Crews should be aware of the “coast-out to coast-in” operational use of the procedure.

3. Crews should only offset 1 NM or 2 NM **RIGHT** of centerline.

   NOTE: Operators are reminded that the current SLOP was created to reduce the risk of collision. It was also designed to incorporate wake turbulence avoidance. SLOP enhances flight safety by reducing the risk not only from operational errors but also crews executing a contingency with a highly accurate LRNS.

4. Offsets to the left of centerline are **NOT** authorized under SLOP and should not be flown.

Contingencies

1. The **15 NM lateral offset contingency procedure** is now universal for **ALL** oceanic areas (**formerly** 30 NM in the NAT and 25 NM in the Pacific). Operators should update their ground training and manuals to reflect this change. Details of the 15 NM contingency procedure can be viewed at www.nat-pco.org.

2. The published Weather Deviation Procedure is now universal in all oceanic areas. Follow the contingency procedures only if you are not able to obtain an ATC clearance.

3. Crews are reminded to execute the correct contingency procedure in case of an emergency descent, turbulence, etc. It is important to minimize the risk to you and other aircraft.

4. Crews should be aware that there is more than one contingency maneuver and should be familiar with the recommended procedure for each in-flight occurrence type.