IBAC Technical Report Summary

Subject: NAT/CMA Scrutiny Group
T6
Meeting: ***SG-14, Miami, FL. (March 7-10 2016)***

IBAC File:

Reported by: Ron Weight

Summary:

The following is a summary primarily from a Business Aviation/GA perspective of the vertical and lateral error events reviewed at the meeting for the period July through December 2015.

- **Vertical, Large Height Deviation (LHD) Errors:**

63 - Total events recorded
44 - Airline (24 - Crew Errors, 18 - ATC Errors, 1 - HF Radio Operator Error, 1 - Turbulence)
4 - Military (1 - Crew error, 1 - Crew error due icing, 1 - ATC Error, 1 Aircraft mechanical)
15 - GA (13 - Crew Errors, 1 - ATC Error, 1 - Turbulence)

- The 44 airline events came from 35 different airline, which tends to indicate there was not a procedural problem with any individual airline or airlines from any particular region.
- 13 of the 24 crew errors involved Conditional Clearances which is more problematic since it is simply a misinterpretation or incorrectly executed altitude change clearance.
- **GA Errors:**
  - **7 were below MNPS airspace**

Acft Type	Acft Registry	Issue	Altitude
PA30	N Reg (USA)	CWOC*	F60
PA30		CWOC*	F70
M339		DWOC** Reverse course	F270
DHC6		CWOC* Due Turbulence	F190
DHC6		CWOC* Due Icing	F130
B36		DWOC** Due Icing	F150
B350		DWOC** Due mechanical	F280

  - **3 were above MNPS airspace**

Acft Type	Acft Registry	Issue	Altitude
GLEX		DWOC** Due Perf Unable Alt.	F430
C750		DWOC** Due Perf Unable Alt.	F450
C56X		DWOC** Due Perf Unable Alt.	F450

  - **5 were within MNPS airspace**

Acft Type	Acft Registry	Issue	Altitude
F2TH		Unable to maintain Alt Due Perf.	F430
C510Mustang		DWOC** & No Pos Reporting	F300
GLF6		DWOC** Declared Emerg Due Mechanical	F450
GLF5		Severe Turbulence	F400
CL60		DWOC** Due Perf Unable Alt.	F400

* CWOC - Climb Without Clearance
** DWOC - Descent Without Clearance

- **Lateral Deviation Errors:**

96 - Total events recorded
6 – Gross Navigation Errors (25 NM deviation or more)
43 – Lateral deviations less than 25 MN
47 – Preventions/Interventions
13 – Deviations prevented at Oceanic Entry Point
42 – Crew Errors, Followed or intended to follow Flight Plan Instead Of Clearance (FFPIOC)
7 – Crew Errors due weather deviation
4 – Crew Errors, inadvertently deleted waypoint
3 – Crew Errors, crew turned early
3 – Crew Errors, double longitude entry
1 – Crew Error, ARINC 424 error
5 – ATC Coordination Errors

- **GA Errors:**
  - **Gross Navigation Errors (25NM or >)**

Acft Type	Acft Registry	Issue	Altitude
E135		CYYR-BGSF, Crew reported being on course but ADS-B conformance report showed them 78NM off course	F390
C182		Crew Error	F100

  - **Lateral Deviations < 25NM**

Acft Type	Acft Registry	Issue	Altitude
LJ55		FFPIOC *	F380
COL4		Crew Error/Autopilot Malfunction	F140
FA50		Flew old FMS stored FP which was different than clearance	F410
F50		ATC Error	F210
F2TH		FMC entry error, forgot one waypoint	F390
C25C		FFPIOC*	F450

  - **Interventions/Preventions**

Acft Type	Acft Registry	Issue	Altitude
CL60		ATC Error	F310
LJ60		FFPIOC*	F380
FA7X		FFPIOC*	F400
GLF5		FFPIOC*(new clnc, changed alt. but not route)	F430

* FFPIOC – Followed Flight Plan Instead Of Clearance

Implications for Business Aviation:

- **Vertical, Large Height Deviation (LHD) Errors:**

The seven GA events below MNPS airspace were at relatively low altitudes, and for the most part independent operators that we are most likely not going to be able to communicate with through the Business Aviation community.

The eight events above or within MNPS airspace do show a trend that we have seen a fair amount of over the years. Five of the eight events were altitude deviations varying from 400 feet to as much as 6,000 feet due to being unable to maintain the high altitudes due to aircraft performance. Some of the aircraft types are quite temperature sensitive, and operators need to pay better attention to their weather forecasts. ISA plus temperatures are fairly common across the north Atlantic. I returned from Europe 2 weeks ago and saw ISA plus 14 for most of the crossing, which is exactly what was forecast on my computer flight plan.

One DWOC was due to aircraft mechanical and one due to severe turbulence. There is not much you can do about those, and both operators handled the situations appropriately.

The C510 Cessna Mustang aircraft was planned CYQX (Gander) to BGBW (Narsarsuaq) and cleared at FL300. Aircraft was cleared on the flight planned route and reportedly flew that route. Gander ATC tried contacting them many times including through other oceanic aircraft relays, but they were unable to contact them. No position reports were received from the aircraft. The crew descended from FL300 to FL190 without clearance until they finally made contact with Sondrestrom FIC.

- **Lateral Deviation Errors:**

There were numerous different causes in the lateral error events, but one cause in particular really stands out. 44% of the events were occurrences of the crew Following Flight Plan Instead Of Clearance (FFPIOC). GA events were the same as airline events with 5 of 12 lateral events FFPIOC.

Fortunately the ANSPs are paying particular attention to the “Next+1” position in position reports, and intervening to correct the intended route before a lateral error actually occurs. (47 times during the July - December period)

Decisions Required:

The formal meeting report will be published by the NAT/CMA manager, David Nicholas