

# EAAP

September 2014  
Issue 10

Etihad Altitude Survey Results Part 2

الإتجاه  
**ETIHAD**  
AIRWAYS  
FLIGHT OPERATIONS





## Contents

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Introduction	5
Review	6
Latest Statistics	7
Phase of flight (Apr 14 - Jun 14)	7
Causes	8
Answers to EAAP Survey Questions 12-21	9
Events	20



## Introduction

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A warm welcome to edition 10 of the EAAP (Etihad Altitude Awareness Program). As mentioned in previous editions, our main function in producing this digest is to monitor the trends associated with altitude deviations/level busts within Etihad Airways and to pro-actively remedy the causes and reasons behind such incidents. In disseminating this publication we hope to make the process an inclusive one, whereby you, the pilots, are actively contributing to the success of the program. We hope to continue doing this by continuing to produce these digests and bringing the Etihad pilot community relevant and useful information that may be used to decrease the amount of altitude deviation occurrences that we currently experience.

In this edition, we discuss the results of the EAAP survey carried out amongst Etihad pilots in December last year. To make the results more digestible we have divided the results into two halves. In the last issue we analyzed and discussed the answers to questions 1-11. In this issue we analyze and discuss the answers to questions 12-22. Once again a very big thank you to all that completed the EAAP survey; hopefully you will find the results interesting and informative.

The statistical data contained within these documents is primarily derived from our own Flight Safety department and as such, is only as good as the information that is reported by you, the pilots. Again, we actively encourage you to report any altitude deviation, however insignificant it may seem at the time. Minor errors that have resulted from dynamic threats that we experience every day may be caught in good time to prevent an altitude deviation however the underlying reasons behind the initial error are of interest to us all. We employ a 'Just Culture' within the airline and this enables all pilots to report these occurrences without fear of retribution. All reports are de-identified when they are received by Flight Safety so only the Flight Safety department are fully aware of who files any report related to any altitude deviations and of course any other flight safety events.

Please continue to actively report all deviations. Your participation in this process is integral to the overall success of reducing the occurrences that we experience.

***Any procedures mentioned in this document are purely for information purposes only. Pilots should review their own aircraft type specific procedures for complete and proper guidance and not use this document in any way as a source document for Etihad aircraft operations.***

## Review

This edition of the EAAP is the 10th in the series. The previous 9 EAAP digests have covered a broad range of topics that have proven to be instrumental as contributory causes to altitude deviations within Etihad Airways. These previous editions continue to be available for review by all pilots and can be found on your Skybooks under the Flight Safety tab.

- Issue 1 – Pilot/Controller Communication
- Issue 2 – Maintaining RTF standards
- Issue 3 – TCAS
- Issue 4 – Sterile Cockpits
- Issue 5 – Weather/Turbulence induced altitude deviations
- Issue 6 – Aircraft Energy Management
- Issue 7 – A Pilot's Tale
- Issue 8 – The Go Around
- Issue 9 – EAAP Survey Results Questions 1-11

We strongly encourage all pilots to review these publications on a regular basis so that they can maintain a high level of awareness with regard to these associated threats. It is the responsibility of all pilots to stay up to date with the information contained within these publications. We have a common goal to manage our safety levels effectively and by reducing the number of altitude deviation occurrences; we can assist in achieving that goal.

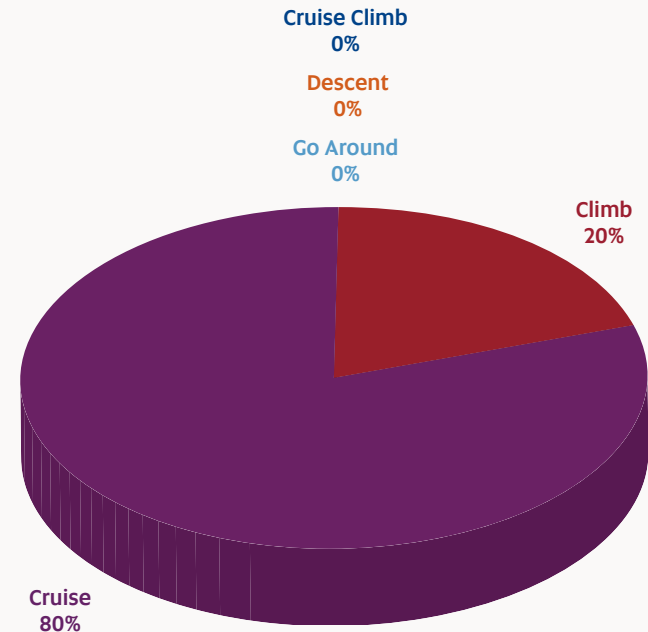
We also ask all pilots to offer their own feedback to this publication. Should you feel that an item of discussion is worthy of inclusion into the digest, please email [EAAP@etihad.ae](mailto:EAAP@etihad.ae).

## Latest Statistics (April 2014 - June 2014)

Drawing on the data that has been collected between the beginning of April 2014 and the end of June 2014 the company has experienced a total of 5 altitude deviations. On a pro-rata basis this is a large decrease in events per month compared to the period of the January– March 2014.

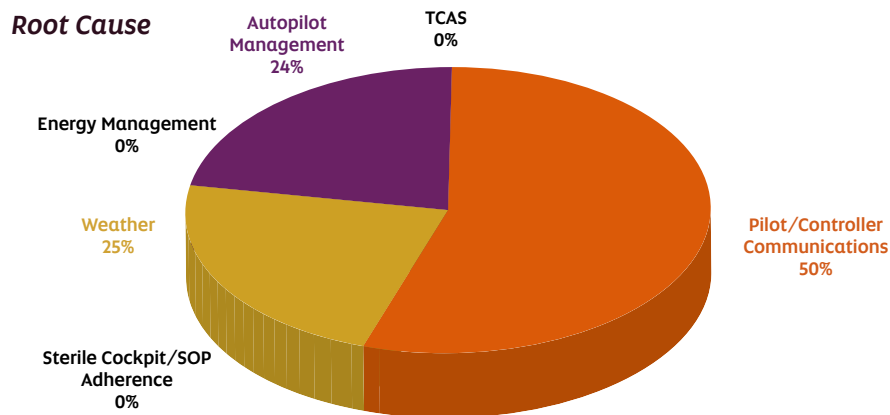
The chart below shows us the breakdown of which phase of flight the deviations occurred.

### Phase of flight



## Causes

The data presented to us for this quarter shows an increase in Pilot/Controller Communications events. Compared to the last period of data Pilot/Controller Communication issues have decreased from 67% to 50% of Altitude deviations. However it is still the largest percentage of root causes of altitude deviations we are suffering as an airline. This topic was discussed at length in Issue 1 of the EAAP back in August 2011. For those pilots who have joined us in the last 2 years we recommend you review the article in Issue 1. The information contained within it is just as relevant today as it was then. Pilots are reminded of the need to remain vigilant with their RTF standards. Again, we ask you to file reports on cases where you may hear multiple radio call signs that have the same flight number. You may recall that EAAP digest No2 was directed at Communication error and how we can better maintain high RTF standards. Altitude deviations attributed to Weather have increased slightly but this may be due to seasonal factors.



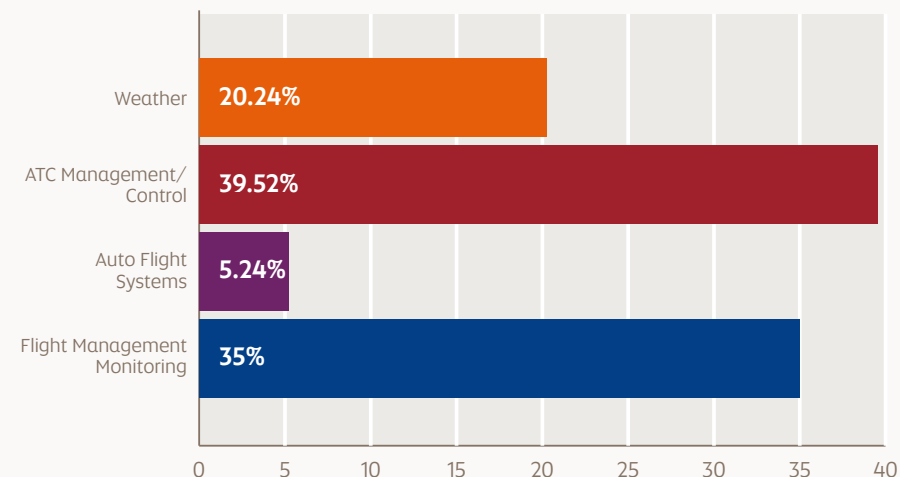
Pilots are encouraged to refresh themselves with the content of the 'All Clear EY Phraseology' guide that can be found on the Skybook under:

- TRAINING > Supplementary Training > RTF Training Guide.

You are encouraged to file reports on cases where by multiple radio call signs of a similar nature exist on the same frequency at the same time. Please continue to feedback these or any other potential flight safety events.

## EAAP Survey Results and Analysis – Questions 12-21

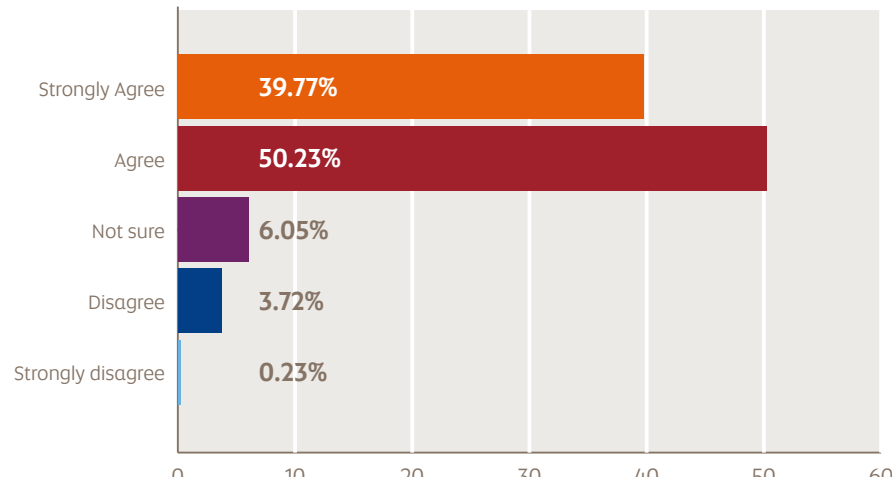
### 12. Worldwide, which main operational factor is observed to rank in the highest percentage of Altitude Deviation events?



**Q12.** 40% chose ATC as the main operational factor observed to rank in the highest percentage of Altitude Deviation events closely followed by 35% of the responses attributing Flight Management monitoring and 20% attributing to weather factors. In essence, approximately 70% of altitude deviations are the result of a breakdown in pilot controller communications (Flight Safety Foundation ALAR Toolkit). Altitude Deviations occur usually as the result of one or more of the following conditions:

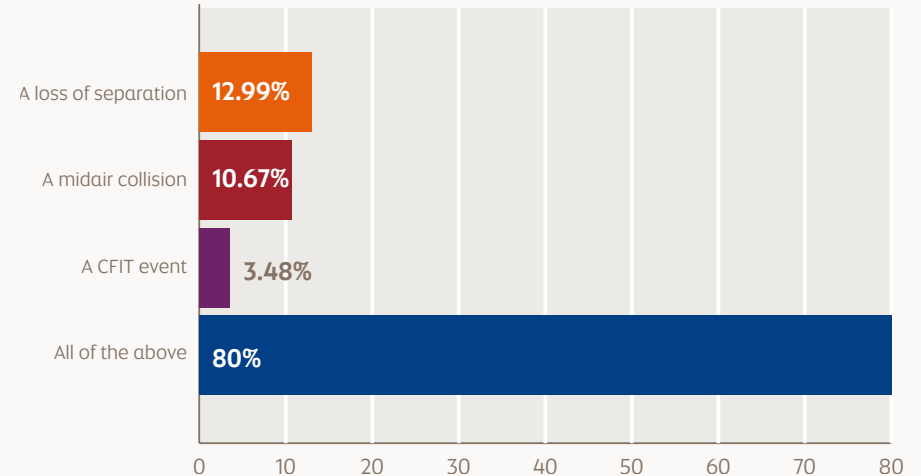
- The controller assigns an incorrect altitude or reassigns a flight level after the pilot was cleared to an altitude.
- Pilot - controller communication breakdown, mainly read-back/hear-back errors.
- Pilot receives, understands and reads back the correct altitude or flight level but selects the incorrect altitude or flight level because of;
  - Confusion of numbers with another element of the message (e.g. airspeed, heading or flight number).
  - Expectations of another altitude/flight level.
  - Interruption/distraction.
  - Breakdown in crew cross checking.

**13. Non standard R/T phraseology by pilots and ATC is a significant factor in Altitude Deviations.**



**Q13.** 90% of the responses to this question either agreed or strongly agreed that non-standard R/T phraseology by pilots and ATC is a significant factor in Altitude Deviations. Crews are reminded to use standard phraseology for clear and unambiguous pilot - controller communication and crew communication. Standard phraseology is a common language for pilots and controllers, and this common language increases the likelihood of detecting and correcting errors. When in doubt about a clearance, request conformation from the controller; do not guess about the clearance based on crew discussion.

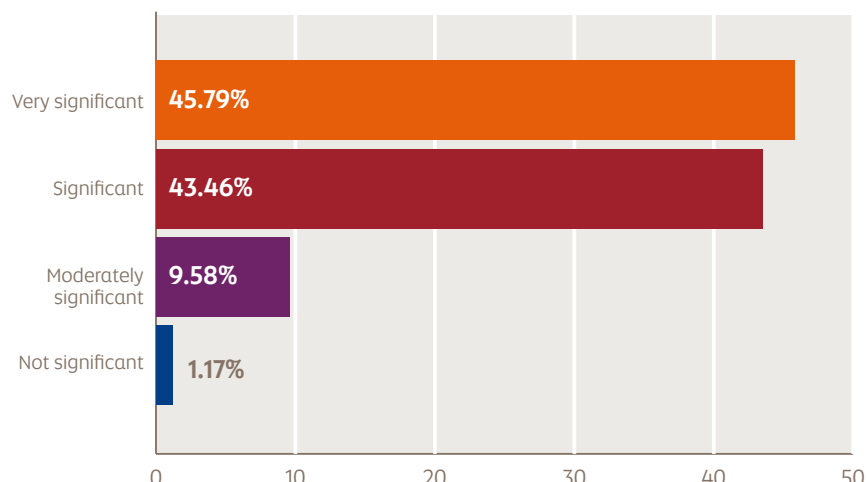
**14. Altitude Deviations can result in:**



**Q14.** It is encouraging to see that the majority of the answers indicated that Altitude Deviations can result in either a loss of separation, a mid-air collision or a CFIT event. Worldwide, altitude deviations are on the rise and the development and implementation of altitude awareness programs in major airlines, including Etihad Airways, is an effort to significantly reduce these events.

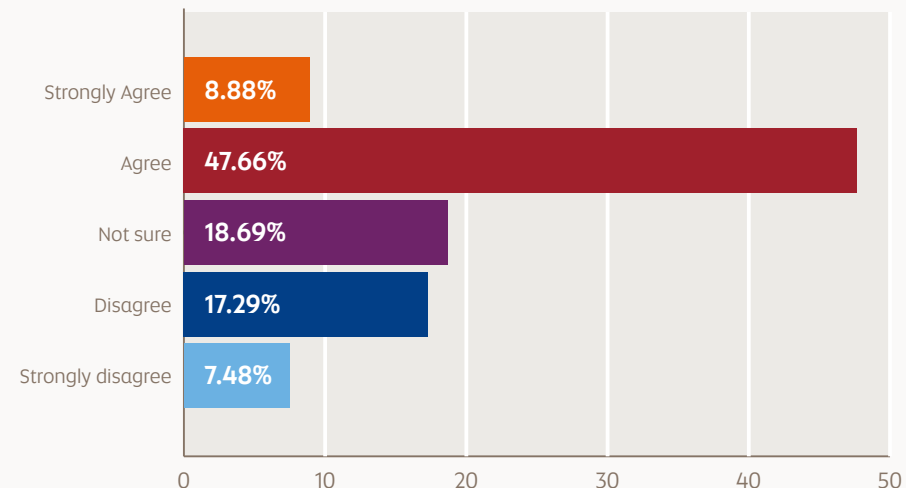
With aviation growing so rapidly throughout the world, the airspace in which we operate is becoming extremely challenging. This safety problem is even more evident in our home base of Abu Dhabi, where the airspace in which we are allowed to operate is becoming busier with every passing day. With all the carriers in the Gulf area expanding rapidly the airspace is under a great deal of pressure. This volume of traffic combined with limited airspace is a precursor for altitude deviations. R/T discipline and challenging confusing or vague ATC clearances is a must for all Etihad crews- safety must be our number one priority.

**15. With respect to potential Altitude Deviations, how significant a factor is non standard R/T phraseology by pilots and controllers?**



**Q15.** This question is similar to Question 12 and once again it seems, as a pilot body, we are aware that non standard R/T phraseology by pilots and controllers is a significant factor in Altitude Deviations with almost 90% of the responses as significant or very significant. Encouragingly, Pilot/Controller Communication issues within Etihad have decreased from 67% to 50% of Altitude deviations in the last 3 months. However it is still the largest percentage of root causes of altitude deviations we are suffering as an airline and we must strive to be on our guard against potential future incidents. Remember when it comes to ATC clearances, if in doubt – CHECK!

**16. On the whole, R/T discipline in Etihad is of very high standard.**

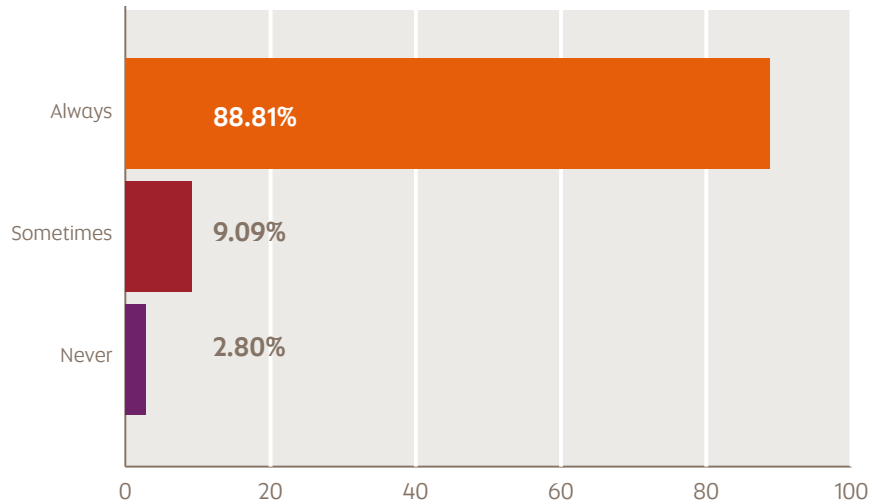


**Q16.** This is an interesting question and response. It reflects your perception of Etihad's R/T standards. With almost 45% of the responses reflecting uncertainty or disagreement with the statement, one of the conclusions that can be drawn is that we must do better when it comes to communicating with ATC.

Once again, pilots are encouraged to refresh themselves with the content of the 'All Clear EY Phraseology' guide that can be found on the Skybook under;

- TRAINING > Supplementary Training > RTF Training Guide.

**17. When receiving an ambiguous clearance from ATC, do you challenge the clearance?**

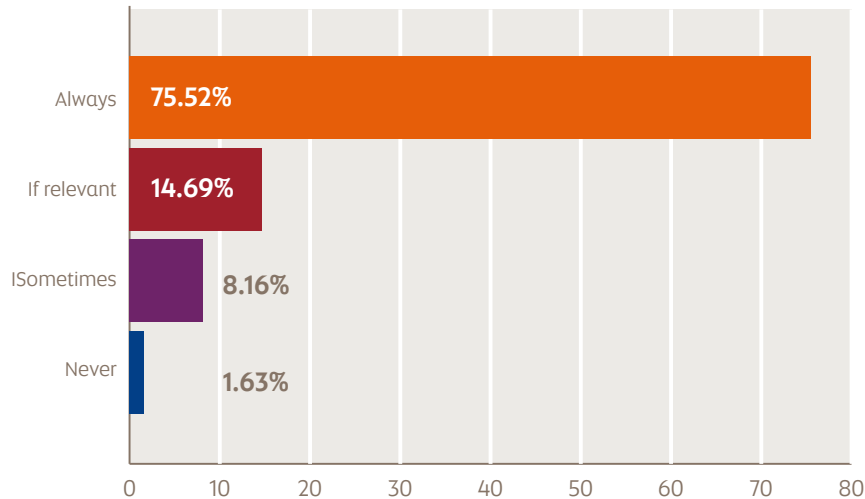


**Q17.** This is a positive and encouraging response, with almost 90% of you always challenging any ambiguous clearance from ATC. We now need to educate those pilots who answered 'sometimes' or 'never' to see the potential for an altitude deviation if they do not always challenge and clarify ambiguous or confusing clearances from the controller. This is the responsibility of us all as aviation professionals. If we can achieve this then we are moving closer to our mutual goal of reducing our number of Altitude Deviations to an absolute minimum.





**18. When briefing the arrival/departure do you stress the transition level/altitude?**

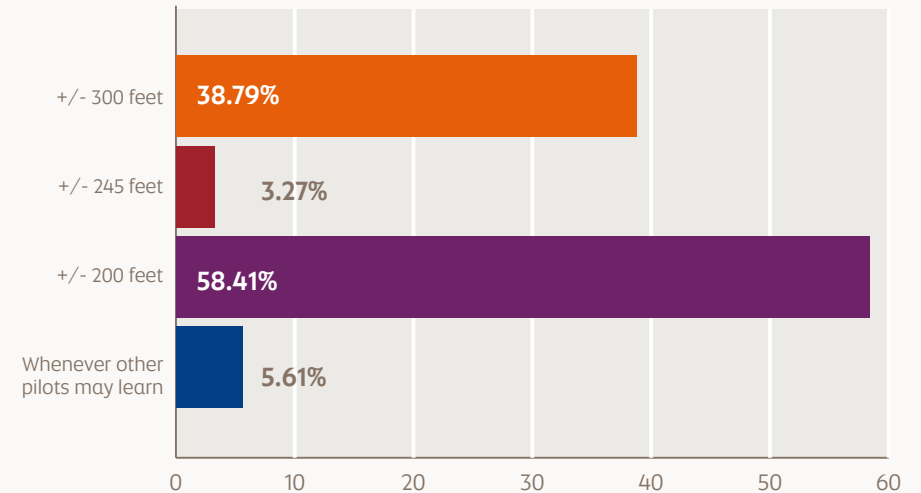


**Q18.** Once again it is encouraging to see that three quarters of the responses indicated that the transition level/altitude is always included in the departure/approach brief. As a reminder, the transition altitude/flight level can be:

- a. Fixed for the whole country (e.g. FL 180 in the United States)
- b. Fixed for a given airport(as indicated on the approach chart) or variable as a function of QNH as indicated by the ATIS or ATC.

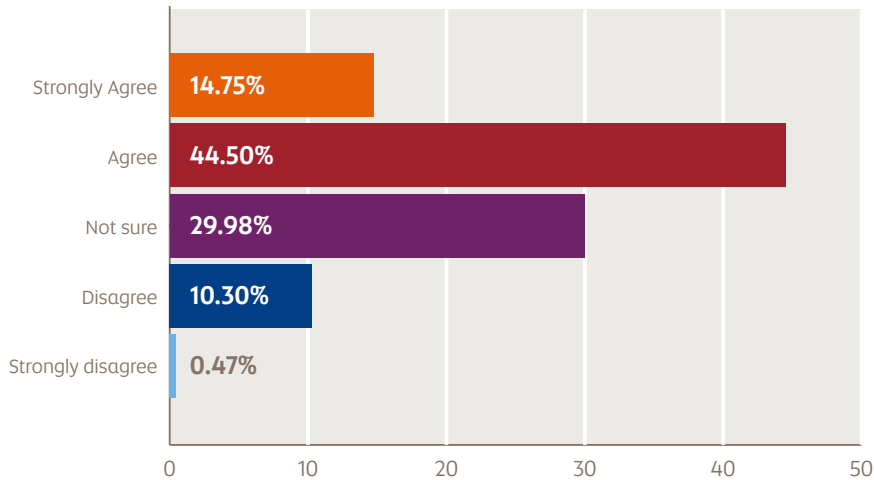
Depending on our area of operation in the world, changing from a fixed transition altitude/flight level to variable transition altitude/flight levels may result in a premature resetting or a late resetting of the altimeter sub-scale. An altitude restriction also may delay or advance the setting of the standard altimeter setting possibly resulting in crew confusion. Therefore, transition altitude/level can be a potential threat and pose a risk to the safety of the flight. Crews are strongly encouraged to consider this factor when briefing the departure or approach.

**19. When should you report an Altitude Deviation in RVSM airspace?**



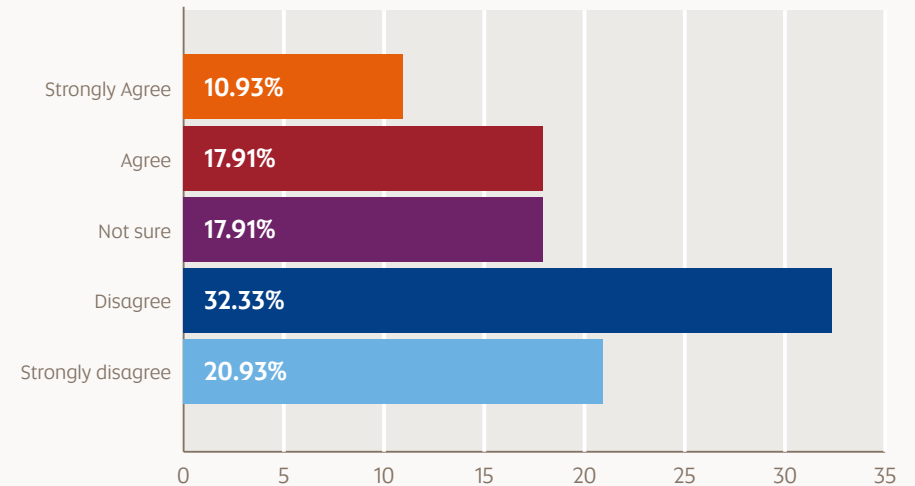
**Q19.** It is clear that there is some confusion regarding altitude deviations within it. There are rules regarding certification of aircraft equipment, and we as pilots have to monitor this equipment when operating in this type of airspace. Therefore it is vital that we know the difference between instrument limits and aircraft altitude deviation limits in RVSM. As a reminder, pilots are encouraged to familiarise themselves with GCAA CAAP 5 document which details the relevant regulatory requirements.

**20. Local airspace structure contributes to Altitude Deviations.**



**Q20.** Almost 60% of the responses indicated a perception that local airspace structure contributes towards Altitude Deviations. The local airspace is continually evolving as pressure from the gulf region’s expanding airlines continues to grow. Etihad is working closely with local ATC managers to improve mutual understanding of each other’s requirements and as a consequence improve lines of communication. It is therefore essential that we must all remain vigilant with regard to NOTAMS detailing airspace structure and challenge any unusual clearances so as to avoid confusion and ultimately errors that may jeopardize flight safety. As always, feedback via the Etihad reporting system is very important factor in rationalising this ongoing process.

**21. A standard call of "2000 to go" as well as the "1000 to go" call would significantly improve altitude awareness within Etihad?**



**Q21.** The response to this question appears to be evenly divided between those who think the ‘2000 feet’ would not significantly improve altitude awareness and those who either do or are not sure. The ‘2000 feet to go’ call has been adopted by some of our partner airlines and they have reported a significant drop in Altitude Deviations since its introduction. Of course, there are other factors that may well have contributed to this decrease in incidents but nevertheless the ‘2000 feet to go’ call cannot be ignored. Changing SOPs is only considered when the potential benefit outweighs the threat for potential error brought about by that change. The CRM Training Manual states:

‘In the operational context, change simply means when the plan has been or must be altered’

In conclusion, the ‘2000 feet to go’ call will be carefully evaluated by Etihad and, if considered to potentially improve flight safety and reduce our exposure to Altitude Deviations, could be implemented within our SOPs in the near future.



## Events

- ▶ We had Colombo ATC instruction through CPDLC "at EKASU descend and maintain non std FL340 due tfc ". Message was read and accepted. As the descent to FL340 was just commenced to maintain FL340 by EKASU, PM raised a doubt if the controller meant to leave FL350 at EKASU. We chose to return to FL350 and verify the instruction. Shallow climb using V/S mode was started but the MCP altitude window was not reset to 35000 and the a/c reached 35180 ft by which time PF started descending the a/c to 35000 using V/S. Altitude window was reset to 35000. We sent CPDLC message to ATC to clarify the instruction. ATC replied to descend now to FL340. Then we descended and crossed EKASU at FL340. During the return to FL 350 we were distracted by our discussion regarding the CPDLC message wording/ meaning which led to the MCP window not being set to FL350.
- ▶ While maintaining FL370. 90NM to GT at approx 20:40UTC. We experienced a strong updraft leaving the assigned FL +300 ft approx. We were in VMC over the tops. All automation remains engaged. We reg FL 390, after FL 370 was recovered.
- ▶ We were in level flight on Bahrain FIR on UL602. 15NM approx before ALMOK been cleared to non standard FL350 till clear a traffic from right to left at flight level 360. Read back was confirmed FL 350. However i call PF at approx 35380 to descent. Just before the ATC advices us to descent. No TA triggered no relevant events. Possible cause can be the very noisy cockpit of EIZ, relevant workload, misunderstood instructions, the non standard FL, and no verbal communication of level as per SOP's.
- ▶ U.A.E. ATC Control assigned us a restriction to reach the waypoint Darax by FL 310. During the climb the aircraft the aircraft didn't perform as expected also because we had to increase a little bit our speed for some turbulence, loosing climb performances and so being able to reach the specified point at FL 305. During the last part of the climb we tried to call the ATC to inform of our degraded performances in the last part of the climb but at that time the frequency was too busy.

- ▶ Approaching VECF FIR from VYYF FIR we attempted to make contact with VECF ATC via, HF and CPLDC 10 minutes prior to the FIR boundary as per the instructions on the relevant enroute chart. We could not make contact directly nor through a relay from any other aircraft. Due to a CB on our route we had to divert 25nm to the right of track. As such we selected all external lights on and made relevant calls on the area VHF and 121.5 frequencies advising of our deviation. Passing 10nm right of track we then descended 300ft to FL317 as per the relevant weather deviation without ATC clearance procedure. When we were approximately 20nm right of track a CPLDC connection was established. We were then cleared to deviate for the weather and to return to FL320.



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