Confidential Human Factors Incident Reporting Programme

FEEDBACK

Issue No: 41 **January 1997**

Editorial

Although this issue of FEEDBACK contains no reports relating to fatigue/Flight Time Limitations, this subject remains a significant ongoing Human Factors issue. In seeking to resolve some of the cases raised by reporters it is important to realise that most if not all the duty patterns reported as contributing to fatigue conform with the requirements of CAP 371. The CAP 371 requirements are an empirical standard in that they represent a compromise between commercial competitiveness and, perhaps ideal, aviation medical advice, and although the requirements were progressively amended up to 1990 in an attempt to acknowledge the specific demands of some sectors of the industry, the CAP flying hour/duty limits remain not entirely appropriate for all types of operations.

It must also be appreciated that working practices within the air transport industry have evolved significantly in the last few years. Intensive, short sector night freight operations are a case in point. One effect has been that some operators have sought to improve cost-effectiveness by rostering crews at, or close to the limit of CAP 371 on a continuing basis, relying on the CAP limits alone to protect crews from the effects of fatigue. Regrettably over the same period of time there have been few studies into the influence that these duty patterns have on stress/fatigue, which might otherwise be used to balance the commercial argument.

It is evident that the diverse nature of the UK air transport industry mitigates against regulation being universally effective as the sole means of preventing fatigue. A clear requirement exists for a fresh look to ensure a better understanding of the effect that some roster patterns have on stress/fatigue. In addition, an independent and expert visible process is required for the resolution of cases where fatigue is cited. I understand that this point has been recognised by CAA Flight Operations Department and they are developing an initiative that will be discussed with operators and organisations representing flight crews. Finally, employers should remember that they have a duty of care towards their employees - in this case their crews - to protect them from excessive fatigue, and this they may not be able to fulfil by merely conforming to the requirements of CAP 371.

PCT

AUTOMATED FLIGHT DECKS - TRAINING EFFECTIVENESS

An EC funded research study is seeking to determine the nature and extent of pilots' problems with advanced flight decks following transition training.

All reported incidents of difficulties encountered with advanced flight deck designs are being reviewed. However, it is possible that some problems may not be reported because pilots consider they do not merit a formal report, or are reluctant to admit to not understanding the problem. It is essential, however, that information on this type of incident is included in the study in order that an accurate assessment can be made of the effectiveness of current transition training courses for highly automated flight decks.

Pilots who have experienced any difficulty with automation or advanced systems, which has NOT been the subject of an MOR, are invited to submit a report to CHIRP.

Reports will be disidentified to ensure the anonymity of reporters before being passed to the Defence Research Agency, which has been commissioned to undertake this research.

A Reminder on the magazine format:

The following type fonts are used for:

- Disidentified reports - printed with minimum text changes
- *CHIRP comments are italicised*
- Verbatim Third Party Responses are printed in SWISS type

Inside This Issue

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FEEDBACK - Comments

Probability of Fog? - FB 40

There is always something of interest in FEEDBACK and I found the report of a Far East - UK night flight so well written that I could have been there alongside the crew.

I note the crew's fuel plan was based on "optimum cruise levels etc etc ... even though PROB 40 fog was forecast". It is strictly true that PROB 40 literally means 40%, but I find a common misunderstanding over this item on TAF *(Aerodrome Forecast)* codes. The bulk of pilots seem to be unaware that no higher probability of 40% is available to the forecaster and as I see it, this means the PROB event is 'more likely' to occur than not (i.e. greater than 50/50). In fact my own Company's rules state "provided the PROB percent factor is less than 40%, then that condition can be ignored for planning purposes". It further states "The Commander is expected to exercise good judgement when making a decision to exclude PROB conditions". (I have abbreviated the actual paragraph somewhat).

In my estimation, and I believe it is supported by my Company's flight planners, PROB 40 MUST be considered in any fuel calculation pre-flight, and on my own aircraft type at least, no airfield forecasting PROB 40 conditions likely to cause weather below alternate limits (where these apply) can be used as a legal diversion. I would venture to suggest that the flight in question could have found difficulty in locating a short range LHR diversion not forecasting PROB 40 fog below Cat 1 minima since it apparently landed in Cat 3 weather.

Maybe we should ask PROB 40 to be renamed something more appropriate?

UK Aeronautical Information Publication (UK AIP) states that only two levels of probability of an occurrence happening will be used - 30% and 40%.(Met 3-6 Para.2.2.1).

Additional information sought from NATS Int 8 (the Meteorological Authority for the UK) and the Meteorological Office is summarised below:-

1. The deletion of the lower probability factors was agreed in 1993 as part of an ICAO sponsored general revision of METAR and TAF codes. The decision to eliminate PROB 10% and PROB 20% was driven largely by an initiative to standardise the forecasting of thunderstorm activity.
2. If the probability of an occurrence is estimated to be 50% or greater, the deterioration/improvement would be forecast as a weather change, or a TEMPO condition would be added to the forecast to cover the period for which the change was anticipated.

On the more general issue of fuel planning, recent reports continue to highlight the conflicting pressures that crews experience of, on the one hand, some airline sector fuel policies and, on the other hand, prudent fuel load decisions taken in the light of all the circumstances that may pertain at the planning stage of a particular flight.

This is particularly evident in the case of some return flights to the UK, where en-route cruising level restrictions can reduce or eliminate the relevant contingency allowances. In some circumstances this can leave a crew vulnerable to the additional traffic delays that can result from congestion and/or adverse weather around London airports.

The problem of aircraft arriving in UK airspace with low fuel states was acknowledged by the CAA with the issue of AIC 28/1993.

This AIC remains effective and states:

"It is important, therefore, that operators and crews should take a realistic view of the amount of fuel required, to satisfy the minimum fuel overhead destination requirements."

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Wake Separation

I am tempted to write to you on the subject of wake separation, which as you say is not strictly a Human Factors issue. However, I think the exchange in CHIRP 40 showed some misunderstanding of the scope and intent of wake vortex separation rules, and of the basis process itself, and that makes it a HF issue.

Your correspondent thought that a descending aircraft with speed brakes deployed would leave 'very disturbed air' behind it. So it would, but there is no reason to suppose this would increase the wake vortex risk. This assertion shows a confusion over terms (which is shared by the FAA when they refer to 'wake turbulence', and apparently mean it to include jet blast too). The danger of the wake vortex and its ability to upset a following aircraft is due to the high degree of organisation in the rotating vortices, which are produced as a direct result of the aircraft's lift. Turbulence due to spoilers is chaotic and is widely thought to speed the decay of the lift vortices. Indeed the only practical suggestions for alleviating the wake vortex problem that I am aware of, other than scrapping conventional aircraft design as we know it, involve schemes to get turbulence from spoilers and/or flaps somehow mixed up into the wing tip vortices and so speed their decay.

Your correspondent is absolutely right, though, in thinking that still air, by implication at high altitude, would prolong vortex life (much as PAL was supposed to do for man's best friend!) In your reply you say that US research has shown that such vortices could continue to exist at ranges 'up to 10 miles'. Well for miles I fear you should read 'minutes' when the conditions are right! The precise conditions for such extreme longevity are still, I think, a matter of debate among meteorologists, but there is no doubt that they exist, particularly at high altitude. The only reason commercial air transportation is still viable today, is thankfully that the presence of the ground greatly speeds vortex decay, otherwise Heathrow's capacity would be down to about a quarter of its present value.

This brings me to my main point, what should the aim of wake vortex separation be? There seems to be an assumption in your correspondent's letter, and in countless air safety reports my company receives of wake vortex encounters at glide path intercept height, that the system has an obligation to eradicate all vortex encounters. Not only would that be impossible practically and commercially given the scale of the problem (70 mile in trail separation?!), but I believe from the air safety point of view it is unnecessary. Accidents to commercial air transport due to wake vortex effects are very rare, and as far as I am aware (and if there is any hard evidence to the contrary, please let us hear it) they are confined to encounters at very low heights, usually when the rules have been broken, albeit inadvertently. The normal reaction of an aircraft caught up in a vortex is to be rolled and thrown clear. When there is sufficient height to recover from the roll or ejection there is only a small probability of an accident. In view of continuing speculation over the cause of the Pittsburgh and Colorado Springs accidents, it would be unwise to say much on what constitutes the maximum plausible roll angle and hence the altitude above which recovery should always be possible, but I believe experience to date

suggests a good guess at maximum values of about 30 degrees and 500ft for commercial air transports in the medium category. Encounters above this height may well be very unpleasant, and for those standing in the cabin there is a definite risk of injury (an F27 incident a few years ago is a case in point), but I hope I am not being complacent if I say these are statistically insignificant in the wider context of air safety. Wave and clear air turbulence have certainly caused hull loss and death over the years; wake vortex well away from the ground has not. All these causes fade into near insignificance when compared to accident causes that are directly under crew influence, particularly CFIT *(Controlled Flight Into Terrain)*.

I do not expect ATC to give me clearance from the preceding aircraft's vortices, though I will certainly consider it my duty to position myself slightly upwind of any heavy I can see in front and above!

The term 'wake turbulence' is generally accepted as including all causes of aircraft induced turbulence, whereas 'wake vortices' are a specific form.

The reporter correctly states that wake vortices are often the main consideration in the definition of separation standards.

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GPWS - False Warnings

Reference the recent report on GPWS - True or False? FEEDBACK 40.

On our operation we have "Voice Warnings" initiated by pre-set heights on the radar altimeter. The heights to set-off the warnings: - "Under carriage", "Low height", "Decision height" are pre-set as agreed with Avionics.

We are so used to these warnings being set-off falsely, particularly when taxiing that we have now given up reporting occurrences as faults, i.e. we have been trained to ignore the warnings.

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Melatonin:

FEEDBACK 38 contained an item on Melatonin (Pages 9/10) and the accompanying comments stated that the UK CAA was sponsoring further research into the use of this product. Although the results of this research are not yet available, further information on the subject was published in FOCUS Issue 25 (Winter1996), the UK Flight Safety Committee magazine. The article was accompanied by the following UK CAA comment:

"In the United Kingdom Melatonin was available over the counter as a health food. That classification has now stopped as it is now considered to be a medical product. It is now available only by prescription and that prescription has to be on a named patient basis with the pharmacist having full details of the patient and the reasons for the prescription being written. This is because there are no Melatonin products in UK that have a product licence.

The clinician prescribing Melatonin has to take full responsibility for any complications and the manufacturer has no liability whatsoever. Manufacturers' liability, which is the norm for products that have a licence, is therefore not involved.

What this means is that Melatonin is being considered as an experimental medication and not as an approved routine prescription item that follows the normal medicinal product use."

NDB's - Removal From Service

After the publication of FEEDBACK 39, a number of additional reports were received expressing concern about the removal of NDB facilities. The majority

of these referenced the former facility at Stansted. The following are but two examples:

(1)

As a training captain with 25 years experience I write in support of the view expressed in FEEDBACK 39 that all IFR airfields be equipped with at least one NDB. I have spent many hours persuading trainees to use the RMI needles to monitor ILS closure, and for orientation in general, a skill which I regard as basic airmanship. I was therefore saddened when I learnt that the SAN NDB had been removed, presumably as a cost saving measure. Let us please have it back!

(2)

I cannot agree more with the gentleman who feels that the withdrawal of NDB's from airfields such as Stansted is foolish in the extreme.

One incident that stands out for me following the removal of the 'SAN'. We were arriving at STN from ### - positioned through the arbitrary point 'Alpha' (the arrival point for STN from the North) at Alpha we were given a southerly radar heading by STN radar as they were changing R/W's from 05 to 23. Several 250kt-minutes passed in IMC before anyone spoke to us again. As the aircraft I was flying was non-EFIS, I had no idea where I was in relation to the airport other than 'somewhere South or South East'.

For my own peace of mind - let alone safety, an NDB to give some sort of position information would have been invaluable.

As a result of the concern expressed, enquiries were made of NATS and CAA (SRG) as to the process by which the decision to decommission NDBs such as the 'SAN' was reached. The following is an extract from the response received from CAA (SRG) ATS Standards Department dated 2 December 1996:

"SRG was advised in July 1995 that NATS Stansted intended to withdraw the SAN NDB from service early in 1996 and as a consequence we wrote to the General Manager (ATS) advising of the likely implications for the instrument approach procedures. Attention was also drawn to the reasons why 'on airfield' NDBs had been established at Heathrow and Birmingham when the ILS markers/NDBs were withdrawn. We also understand that funding was available, at that time, for a new NDB on the airfield at Stansted.

Prior to the withdrawal of the SAN NDB, NATS have advised that consultation took place with the airlines and operators who were either based at, or regularly used, Stansted. Consultation also took place with the Directorate of Airspace Policy. No substantive objections were recorded and nor was a requirement for a relocated NDB on the airport identified by the operators. Accordingly NATS Stansted withdrew the NDB at the beginning of February 1996.

So far as can be determined there is no formal requirement to establish an NDB at an airport as opposed to any other navigational approach aid. As you know Stansted is equipped with radar and digital radio direction finding equipment (DRDF) as well as ILS and DME, nevertheless in the view of the safety concerns expressed by some pilots following the removal of the SAN NDB, SRG are taking steps to determine the extent and nature of the process which led up to it. In addition we are reviewing whether there may be a continued need for NDBs at otherwise well equipped airports arising from a pilot's need to maintain situation awareness and conduct gross error checks."

Views sought from a number of operators represented on the UK Flight Safety Committee, including some operating advanced flight deck configurations, provide support for the view that an NDB offers improved

situation awareness for pilots during the approach and landing phases, particularly in the cases where no airfield based VOR facility is available. A DRDF facility is not capable of providing equivalent information to that afforded by omni-directional beacons.

It may be that the consultation process in respect of safety related issues may merit further examination to consider whether the process might be enhanced by the inclusion of professional bodies such as the UK Flight Safety Committee, on which all major UK operators are represented.

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ATC REPORTS

Radar Advisory Service

I recently flew transatlantic with a foreign carrier and was invited to visit the flight deck. Our route from UK to North America took us outside Controlled Airspace for some considerable time. The normal procedure is to advise pilots that it will be a Radar Advisory Service until entering UAS (*Upper Airspace Control Area).* The Captain (of many years) referred to this and asked me "I've often wondered, what does that mean?"

How many pilots do understand this?

Foreign carriers and UK carriers normally get such a service inbound/outbound to Glasgow, Prestwick, Aberdeen and Newcastle to name just four routes.

UK AIP RAC 7-1 Para. 3.1.1 states:

Radar Advisory Service (RAS) is an air traffic radar service in which the controller will provide advice necessary to maintain standard separation between participating aircraft, and in which he will pass to the pilot bearing, distance, and, if known, level of conflicting non-participating traffic, together with advice on action necessary to resolve the confliction. Where time does not permit this procedure to be adopted, the controller will pass advice on avoiding action followed by information on the conflicting traffic.

The specific conditions associated with Radar Advisory Service are detailed in RAC 7-1.

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Post-Accident Counselling

I suffered the trauma of controlling an aircraft that was involved in a fatal accident.

Even though experienced and realising that this sort of thing can happen any time, I was surprised at my reaction to this incident - one of numbness, sense of loss and the feeling that perhaps I could have done more.

What I found somewhat upsetting at the time was an absence of follow-up information and concern as to whether I needed counselling. Follow-up action for traumatised ATCO's ought to be looked at in greater detail.

The following summary has been compiled from information provided by CAA (SRG):

1. *The principal responsibility for the provision of post incident stress counselling rests with the relevant ATS Unit management. ATS Units should be aware of the importance of post incident stress counselling but the extent to which such support is provided in individual cases may vary.*
2. *Many larger ATS Units have a specific post incident process, which includes the availability of counselling assistance. In the case of the National Air Traffic Services this includes their Occupational Health Service or other independent agencies.*
3. *Aircraft accident investigation is the responsibility of the Air Accidents*

Investigation Branch. CAA (SRG) assists in cases where there is specific ATC involvement.

4. *The CAA (SRG) investigation team is able to provide the following assistance to air traffic controllers interviewed during an investigation:*

   a) *Information on progress of the investigation up to the time of the interview.*

   b) *An opportunity to discuss the accident event and what counselling/support has been offered/provided.*

   c) *A discussion on advisability of counselling with the local ATS management, if not already provided.*

   d) *An information paper on post incident stress counselling and services available.*

   e) *Information on progress of the investigation, coroner's inquest procedures and advice on media enquiries.*

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FLIGHT DECK REPORTS

R/T Standards and Procedures

R/T communication standards and procedures continue to be identified as a significant contributory cause of accidents (See Page 12). It is therefore not surprising that we have received a number of reports on this general topic.

(1)

With the increase in movements at major airports worldwide I have noticed that it has become routine for air traffic controllers to give instructions to crews during the landing roll-out.

This is an unsound practice and could be easily avoided. The crew are still busy - cancelling reverse, calling speeds and possibly handing over control, so that the PF (Pilot Flying) for landing then has to take the radio and respond.

I know that some aircrew will not respond to ATC until the aircraft is at taxi-speed. ATC have no idea of the weight and configuration (i.e. reverser locked out) of the aircraft so instructions to leave via a particular taxiway are nonsense.

If ATC wish to request that an aircraft take a particular taxiway on landing it should be done with the landing clearance, the commander could then inform ATC if this was practical and avoid frustrating ATC later. This would also be the time to pass the ground frequency and details of any taxiways not available. It involves no increase therefore in R/T and is good CRM - whereas giving instructions to a busy crew at an inappropriate time is not.

(2)

There is an increasing trend towards ATC making superfluous R/T calls to aircraft during landing roll. At '###' ATC constantly request such data as aircraft registration and whether or not fuel will be required. Recently we were asked for this information while still trying to cope with a strong crosswind on a wet runway, in a type not noted for good handling qualities in crosswinds. I think it would be good ATC resource management if such calls could be deferred until at least we have had a chance to do our after landing checks.

The UK ATC unit in question has been informed of this report.

In addition to notifying CHIRP, pilots are invited to report specific ATC problems directly to the relevant Manager - ATC Services, to enable the matter to be reviewed and, if necessary, addressed.

(3)

What a pleasure it is to fly to Europe and cross into decent ATC (which incidentally gets better from Southern Europe to UK). I feel I represent many UK ex-pat Pilots, when I say that we fully appreciate and endorse the high ATC standards in Europe and the UK.

Thankfully, my incident took place in VMC while transiting ABC. During level cruise we received a TCAS alert, which was caused by a ### Tu 154 cruising 600' below us in level flight on the same airway, almost certainly as a result of a mis-set altimeter. The ATC controller was oblivious to the problem and didn't seem to care or understand our concern!

(4)

I have for a long time been frustrated by colleagues who change frequency and transmit on the new one without listening first. We are all guilty of it now and again, but a recent event has highlighted the dangers.

A short while after the recent crash in Delhi, I was operating a flight returning to the UK from '###'. We were given the Standard Instrument Departure as normal with a height restriction of FL220. Passing approximately FL100 we both thought we heard a call to us to stop our climb at FL200 but due to the number of stations transmitting all at once, we could not be sure. No read-back was made, as we were also required to report passing FL160. On calling "Passing FL160 climbing FL220", ATC indignantly informed us we were cleared FL200!

It is relevant that:-

1. We had not read-back the revised clearance.
2. The controller had not received a read-back, or tried to obtain one having not had one in the first place.

If we had not partially heard our re-cleared level AND not been able to call passing FL160 due to the volume of R/T traffic we would have climbed to FL220 with possible tragic consequences, unless TCAS had saved us!

This brings me to the general degeneration in requiring and expecting a read-back of instructions even in Western countries, excluding I am glad to say the UK, some ATC's give instructions and either do not get or indeed do not expect a read-back, but assume that the recipient has fully understood the instructions.

Anyone who has operated in the US is aware of the sometimes resentful tone from ATC in busy terminal areas if you read-back heading/altitude/ speed changes. Perhaps they might like to consider a read-back might avoid the ATC unit giving avoiding action instructions or us using TCAS!

Perhaps ICAO could now put some pressure on regulatory authorities to address the problems of clearance read-back and 'stepping on' R/T transmissions with operators and ATC units under their respective control, hopefully it may reduce the chances of further accidents.

Deficiencies in R/T communications and procedures are known to be more prevalent in certain countries and represent a significant safety concern. Regrettably, the situation is likely to become even more serious if action is not taken to match the continuing increase in air traffic movements with improvements in infrastructure and language training.

The responsibility for R/T communications standards remains that of the relevant State Authority. Until effective action is taken to address the deficiencies that are known to exist, it is imperative that whenever there is doubt about an instruction, positive clarification must be sought rather than

assuming the meaning or intent of an incomplete or illogical statement.

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ATC Separation

I write to you on a matter that concerns me greatly.

Some time ago, I had an altitude deviation which resulted in an Air Miss. Even though the F/O was handling and I was busy trying to make contact on an over-crowded Company Frequency, I had to accept full responsibility. It was my first altitude deviation in my career

Having reflected on my own and other reported air miss incidents, I am concerned that some ATC procedures set up the conditions in which an air miss may occur too easily. Whereas it is satisfactory for aircraft in steady level flight to pass within 1000 feet vertically with no lateral separation, it is rather a different matter when clearances to descend (or climb) to a level only 1000 feet from other traffic are given. At 2000 ft/min, this is just 30 seconds from a conflict. I do not believe that this is satisfactory and have always thought that aircraft descending (or climbing) to within 1000 feet vertically of another aircraft should also have some measure of lateral separation.

In the light of the disaster at Delhi, can we please have a full airing on this matter of climb/descent clearances? A large proportion of air misses would appear to occur in precisely this situation.

The type of procedure, to which the reporter refers, clearly reduces the margin for error. This is particularly so in the case of the increasing number of aircraft which are fitted with modern navigation systems and thus are able to follow procedural tracks with unerring accuracy.

The potential for an incident to occur in circumstances such as those described has been brought into sharp focus by the recent accident at Delhi. Where this type of procedure is required to be flown, crews must remain extremely vigilant.

The text of the report has been forwarded to CAA (SRG), as will any similar concerns that we receive on this issue.

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A CRM Lesson to be Learned

Towards the end of an 18-day long haul schedule with a reinforced crew, during which interpersonal relationships between the two other pilots had progressively deteriorated, the problem escalated during an extended stopover before starting the return flight to Europe.

The atmosphere on the flight deck for the next leg, which was of maximum duty length, was electric. The time came when I would normally be replaced to enable me to take a rest period. I decided not to rest, as I felt it unwise to leave the flight deck.

The First Officer was the handling pilot for the approach into ###. Some difficulty was experienced in copying the destination weather because of the poor quality English. Weather Report: Calm, CAVOK, and no traffic. We were vectored for a visual approach, which resulted in a rather tighter than usual circuit with a tailwind that was not forecast, however, we lost the excess altitude and landed without incident.

As the after landing checks were being carried out, I noticed the altimeters reading MINUS 600 feet. Three times during the approach the altimeters are cross checked, three times everyone had missed it!

I make no excuses, it was my responsibility. The weather was OK, so we landed safely but …

During the coach trip to the hotel goose-pimples and shivers set in at the thought of the possible outcome of such stupidity. A thorough "Debriefing" at the hotel put things back in order and the final leg back home was far more professionally handled.

How many accidents happen after personality clashes I don't know, but there is something to be learnt from the above.

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Keeping Abreast of Change

About seven years ago, I went through an approved course and obtained a frozen ATPL. Although the course inevitably crams in a great deal of knowledge, I felt the level was high.

Since starting work that same year at a well respected regional airline, I have found that the problem is retaining that level of knowledge. Whilst my experience has obviously expanded, updating regulations and practises can be haphazard. In the past Aeronautical Information Circulars were sent free of charge to any pilot's business address. These are excellent for 'flagging-up' changes to Law, AIP, ANO, Safety and Best Practise, which could otherwise become frozen in time to when ones exams were taken.

I know I am supposed to have a knowledge of the ANO and AIP but how can I be aware of what changes have taken place and when without reading them in toto. Of course, some changes are reflected in company Ops Manual amendments.

I actually work hard to try to stay up to date with regulations, etc and the technical side (of the aeroplane), but what about some of my colleagues who don't. I'm the first to admit it isn't easy.

Am I imagining the problems? FEEDBACK 40 states that when cleared to climb to a Flight Level, vertical position will be expressed in terms of Flight Level. Virtually everyday we operate out of the *** TMA and yet I delay setting 1013mb until 'within 2000ft of transition', WHICH I CALL. Apparently the rule changed in 1994, yet no colleague has ever questioned nor corrected me!

Two things:

First, I shall be subscribing to AICs, in an attempt to plug the gaps.

Secondly, I estimate that the saving made by not sending out AICs to every pilot is completely negated by the accidents directly attributable to lack of knowledge. (I'd loved to be proved wrong!)

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Illegal Play?

Having read several recent incident reports on interference of automated systems by portable electronics, I thought I would bring the following to your attention.

Situation: Charter flight UK to Turkey. Boarded aircraft and crew do normal brief including the statement "Please turn off all electronic equipment". The passenger next to me is listening to CD player and playing "Game Boy". Cabin crew walk down aisle during security check, notice this and do nothing. I tap passenger on shoulder and point out he should turn his electronics off. He ignores me. By now the aircraft is lining up to start T/O roll. Looking out of the window it's good VMC so I decide to do no more. Later, I ask cabin crew why they didn't make him turn it off. The reply was "It doesn't really matter and what's it got to do with you?"

Looking back on the incident I felt that the cabin crews' awareness of a potentially unsafe situation was very poor. Perhaps it would be a good idea if cabin crew had to undergo regular assessment/training, during which

points such as electronic interference of automated systems were covered.

Despite flight crews' awareness of these problems, if the cabin crews' awareness is poor this will lead to continued incidents.

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Radar Headings

North bound to ### descending from F310. The usual clearance was not given. Instead the controller said "What is your heading?". "348" was the answer. He then asked another aircraft his heading and told him to turn on to a radar heading. He did not tell us to maintain our heading, nor did he say that we were on a radar heading.

Had we been alert we would have queried our clearance, or lack of it. Just as we reached ### the Captain went off air to speak to the passengers. The autopilot, still in L NAV mode, turned the aircraft approximately 20 degrees right and the controller then asked us to turn 10 degrees left. I realised there was a misunderstanding and said we had turned onto the new heading and what heading would the controller like. The controller responded brusquely that we were supposed to be on a radar heading. I said "apologies" and left it at that as the controller was very busy.

The lesson from this experience: Don't be lulled into a false sense of security by usually excellent controllers on a familiar route.

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A Nasty Surprise

With 20 miles to run to our destination, an offshore installation, we requested a descent to 1000ft to begin our final approach. '###' gave us details of one other aircraft, a similar type, transiting between oil rigs X and Y at 1000ft. His position was given as five miles further east and separated by five degrees on another radial. The rig had given us a cloud base (estimated) of 1500ft with good visibility.

We commenced our en-route let down to 600ft ASL and encountered IMC conditions as we descended. I had reduced speed to allow for expected poor visibility in the area of weather. At MDH, in contact with the sea below, I looked up and saw a Super Puma slightly above us and to the right, heading South some half a mile ahead, at right angles to our track. It emerged from behind the cloud in front of us. The position of this incident was just five miles West of our destination and some 10 miles further East than the reported position of the traffic.

Had I maintained speed or changed any other parameter, there might have been a mid-air collision. What went wrong? Should the controller have allowed our descent? Should the other aircraft transit IMC at 1000ft? Should we have been more cautious? The actual weather encountered was 7/8 at 600ft with good visibility below cloud.

This incident is a good example of how a number of factors, each of which may not appear to be significant in isolation, in combination can lead to a situation in which an accident is narrowly averted.

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If it Doesn't Feel Right ...

I was demonstrating an unusual join to a student in relatively poor visibility of 5-6 km.

ATC gave Runway 06R, which I copied and explained to the student how this would put us over the sea on the downwind leg. I then proceeded to position the aircraft for Runway 24R, which unfortunately also positioned the aircraft behind the tower!

I instinctively felt something was wrong but nevertheless continued the approach until lined up on the final approach to Runway 24 when to my horror I realised my error and instituted an overshoot.

We subsequently landed without further ado although I did have some embarrassing explaining to do at the tower!

I am familiar with the field and I am still not sure how this potentially disastrous situation occurred, except that I must have seen what I expected to see on the downwind DI check and of course ATC accepted my 'downwind' call because they couldn't see us behind the tower.

Being positive, at least it showed the student how not to do it and reminded me of the old adage "If it doesn't feel right, it probably isn't".

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Learn from Others Mistakes?

The following incident has now happened several times and on each occasion involved different individuals.

The aircraft was on the final approach and when landing flap was called, the Pilot Flying immediately reached for the pitch trim wheel to counteract the change in trim, but inadvertently retarded one of the power levers.

In each of the incidents the pilot was wearing Royal Air Force style flying gloves (which may be OK when tucked into the sleeve of a flying suit), but on each of these occasions caught on the power levers (throttles) causing a severe yaw, and a reduction in thrust and lift.

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ASRS - Review of Foreign Airspace Incidents

The following is reprinted from ASRS Callback No. 209.

A recent analysis of foreign airspace operational incidents reported to the ASRS revealed that the largest percentage - 40% - was attributed to pilot errors. These errors included loss of situational awareness, confusion, flight crew complacency and breakdown of CRM - the same types of errors that occur in US airspace. Another 25% of the reports cited a language problem as a primary cause of the incidents, while 20% were related to aircraft or ATC navigation or communication equipment problems.

A Second Officer's report illustrates the situational awareness and crew communication problems identified in many of the foreign airspace incidents analysed by ASRS:

After departing ###, I noticed a discussion between the pilots about being unable to contact ATC due to frequency congestion to obtain a higher altitude. We were on an IFR flight plan in VMC conditions. We had just crossed XYZ intersection at FL120. We continued west, on course into mountainous terrain, 6,000 feet below the minimum crossing altitude of FL180. We were 14 miles west of XYZ intersection before we received an urgent clearance from ATC to climb to FL260. We were flying through valleys into rising terrain and with terrain above our aircraft. I examined the pilot's departure page and realised how low we really were on the departure profile.

A new-hire Captain was flying left seat. A check Captain was flying in the right seat working the radios. No comments were made by either pilot as to why we proceeded west of XYZ so far below the minimum crossing altitude.