CONFIDENTIAL HUMAN FACTORS INCIDENT REPORTS

FEEDBACK Nº10

The reports that are contained within this FEEDBACK are fairly self explanatory and don't, we feel, call for much comment from us, but we would like to take a few lines here to update you on one or two points. Firstly, we've received more reports (about 80) since the last FEEDBACK than in any other four month period, but many of them addressed (still) the problem of fatigue, and many of these took issue with, one might even say offence at, the commments of the CAA DG (Ops) that we printed in FEEDBACK 9. We have passed all these letters (disidentified) on to him personally so, you never know, there may just be some movement on the problem soon. One comment, which has been made not infrequently in your reports, concerns those round trips that exceed the duty day, and are therefore manned by shipping out the return crew as pax on the outbound leg. You point out that flying as a passenger surrounded by the 18-30 Club is not the most relaxing preparation for taking charge of the aircraft for the return journey. One way of avoiding this problem might be to allow a somewhat longer SINGLE working day, with a maximum scheduled duty of, say, 13 hours, but a permitted total of only perhaps 18 hours for any two consecutive days, 20 hours for three days, and so on. Obviously, the idea is to permit the occasional extended work period but to prevent the possibility of one long duty day being followed by another and another. Your comments on the idea would be more than welcome, as we believe the CAA is getting very close to some action.

The problems of single pilot operation have given us some pause for thought recently. We'd like to devote a section of a future FEEDBACK to them, so if you have an incident to report, please use the back page. It's easy, and it's free. What's more, if you are engaged in commercial, solo flying and feel that you could write a short piece summarising your problem, give us a ring - we'd be delighted to chat.

If you're an air traffic controller reading this, and you're wondering why you haven't yet been included in CHIRP, the news is good - well, reasonably good. As soon as we get a mailing list organised, you'll be in, but if, in the meantime, you would like to submit an incident, do go ahead. As in all previous FEEDBACKS, the items which follow in italics are, as nearly as possible, in the reporters own words.

Lastly, our US equivalent, ASRS, is now 10 years old. We'd like to pass on our congratulations and wish them a happy birthday.

APRIL 1986

LOW DRIVER APPEAL

Every day I drive to work in my 4 year old Ford Escort which is blissfully comfortable, with a seat that slides, tilts, pitches etc. - a noise level that is remarkably low - heating and ventilation readily to hand etc. etc. Although not a new latest model it FEELS GOOD to drive.

On arrival at work I climb into a helicopter (worth about 3 million pounds) and am subjected to appalling noise levels - even allowing for the use of a good headset AND earplugs, very aggravating levels of vibration, an excruciatingly uncomfortable seat, a cockpit heater that works flat out or not at all - etc. etc. The list goes on and on. Why has the situation been allowed to come about? I would suggest that the fundamental reason is that the helicopter manufacturers have not HAD to pay much attention to this aspect of helicopter design, as the person who is responsible for buying the machine is seldom the person who flies it. This is directly contrary to the situation as applied to the motor industry - in order to sell the machine one has to take care of the comfort needs of the driver.

How can this situation be resolved? As you chaps at CHIRP might carry a bit of clout with The Helicopter manufacturers perhaps you could send copies of letters like this to Augusta, Bell, Westland etc. (Sent a letter to Westland myself - didn't even get an answer).

We have three distinct comments to make about this report. The first is to express the hope that other helicopter manufacturers will take note of what happens to companies that don't reply to letters from pilots. The second is to endorse the comments about how good Ford Escorts are. In fact, if anyone is interested in a 1979 white estate, good runner, phone the number on the back page. The third is to observe that we have had a number of reports making similar points about the flight deck environment, especially seats, in helicopters. We've consulted the CAA and they are actively pursuing a program of assessment at the moment. We'll keep you informed of any outcome, but if you'd like more details of what is going on, try writing to Dr Rory Barnes at the CAA.

1-11 STORIES

Normal approach, co-pilot handling, 16L @ XXX. a 747 was lined up as I approached the OM, and then he asked to clear at A2 (about 1500 feet from threshold) to check a wheel. I was cleared to land, with the wind effectively calm, and the 747 stationary at about 90 degrees to the runway with the tail just over the A2 holding bar. Close, tall, but safe, we said. Everyone reading this knows what happened next, but not this flight deck, not the tower, not the 747 crew.

The co-pilot closed the throttles a little early, just before we hit a violent turbulence and crosswind. The last speed I saw was 15 knots slow. I did not take control. My primary concern was that the attitude should be reasonable, wings level, as we headed for the grass. Moments later, we arrived firmly on the concrete. The tower apologised profusely, and 747 captain said he did not use more than idle.

I could submit this account to my Company, but it would not be circulated. However obvious it seems now, it did not cross my mind before the event. Perhaps this will save a recurrence.

*

As a result of a previous report from me and others ref BAC 1-11 LP cocks and engine shut downs from mis-selection, you claimed victory as action would be taken to fit guards of some sort.

Suggest you have another look at the joke which has been fitted to our aircraft.

ONE DAY THESE SWITCHES ARE GOING TO KILL and they are still as dangerous as ever.

I refer to the 1-11 incident in the last FEEDBACK. I too have done this. Since there has already been one accident, why not modify the A/C. Take on electrical supply from the "MASTER VALVES" to the APU "LOAD CONTROL VALVE" so that when the master valves are set to engine air, the APU load control valve is shut. (GOT IT? ED.)*

Many areas of the 1-11 systems and cockpit design are poor, the difficulties are compounded by operating only with 2 crew, many mistakes go unnoticed for, often, the remainder of a flight.

*(*See FB9 page 5).*

BAe always give a thoughtful reception to CHIRP reports, and they have undertaken to have a hard look at all the problems that have been notified to us concerning 1-11 LP cock operation. Watch this space.

"ADEQUATELY RESTED" ? (CAP371)

I read with interest and subsequently disgust the "Sleep Spot" Feedback No.8 I am a North Sea Helicopter Captain, and I would consider any pilot Rotary or Fixed Wing totally unsuited to the job if he elected to take "cat-naps" having briefed his copilot to fly the aircraft at 500 feet in poor weather conditions. The pilot in question claims to have heard of a number of "similar hair raising stories". In 7 years of North Sea operations I have heard none. How he can claim that flying at 500 feet in conditions of poor visibility is a "Low Activity Period" I do not understand. We should all be grateful that this particular pilot has now left North Sea operations. Perhaps he should leave flying altogether.

....BUT ON THE OTHER HAND.....

[illegible] return from the Shetland Basin, [illegible] above cloud with sun reflecting up through perspex I could not keep awake, I asked Captain if I could have a 15 min snooze. Afterwards I felt 100% better. Had had plenty of sleep night before but it was my 3rd morning on with T/O at 0700 meaning I was getting up at 5am. 2. On returning to the East Shetland Basin at night I felt very tired. Had 15 min snooze - much better. I do not know why so tired. 3. Have been doing this type of flying for years and years at Aberdeen; perhaps I'm bored mentally although I don't feel bored.

*

The C.A.A. comment on Page 4 of Chirp 9 has stung me into action at long last. (Perhaps it was meant to?). Anyway it proves to me that the C.A.A. are living in another world as far as crew fatigue is concerned. Here follows an amusing incident which nonetheless has worrying undertones:-

Levelled out at FL150 taking care not to wake my sleeping courier in R.H. seat. Just about to engage A/P after making fine adjustments to trim and power when courier sat up and grabbed co-pilot's controls and started rolling on aileron left and right and mumbling strange noises. I easily overpowered him on the controls with my left hand. His hands stayed on the controls and his elbows started moving as if in a convulsion instead. I asked him what the hell he thought he was doing and got the impression he was having an epileptic fit. Decided to knock him out with fire extinguisher but realised I wasn't 100% sure where it was or how it was secured since I'd never taken it out of its storage.

I then brought my right arm back across my chest to give him a forearm smash across the face when he " woke up " and mumbled " I'm sorry I was asleep ". He repeated this and then sunk sheepishly back in his seat. This young man had been working long hours and flying 6 nights a week as a courier. It made me wonder, since I have lost count how many times I've " dozed off " in the last 5 years of permanent night flying and woken with a start. What did I get up to just before I woke up?

*

I would be surprised if this is the first complaint that you have received about this company's schedule XXX-YYY-XXX. The timings in ZULU 2030 - 0205 and 0255 - 0800, which are outside the limits for a single crew, so the return crew position out in the back of the a/c with the pax and then operate YYY - XXX. Travelling out with a plane load of noisy Continentals for 6 hours is a very relaxing experience prior to a long night flight, I must say! You can imagine it's no joke trying to stay fully alert at 0800 the next morning.

Whereas this is legal according to CAP 371, in practice it is stupid and irresponsible. Both my company and the CAA are paying lip service to flight safety - Please help to stop this abuse.

TOO CLOSE FOR COMFORT

I was the captain of a helicopter flight to an offshore oil platform. The weather forecast indicated the presence of low stratus and shortly before we arrived the oil platform went into fog. I elected to conduct a NDB plus Weather/Mapping radar approach to the destination. Now, my co-pilot was relatively new to the North Sea and having demonstrated the approved approach technique to him in VMC just two days prior, I was determined to show him that in the real situation I followed the exact same procedure and resisted the temptation to "grobble" in visually at low speed.

With the copilot handling the controls and flying on instruments and myself monitoring the profile, we descended to the MDA of 170' radar altimeter at approximately one and a half nm and continued the run in to Decision Range of 0.5nm. The aircraft was flown at the approach speed of 75 kts and the approach was into the light wind reported at 10 kts. I could see the surface but there was no horizon and forward visibility very poor.

I was conscious of a nagging doubt about the procedure which I had demonstrated so confidently in VMC. How much off the nose should I put the radar blip? Too little and the oil platform, a large 300' to 400' high structure, would be right in front and above us at half a mile while we closed at 65 kts ground speed. Too much offset and I would pass abeam the platform by such a distance that I could not hope to see it.

The radar painted the target only every few secs and as the platform's blip approached the bottom of the screen I wondered if there was a blank space in the radar display into which the blip could disappear without ever getting to the declared minimum range, in which case each successive sweep would just shave off the leading edge of the blip so that it never got any closer. However, the approach continued normally and I wanted to demonstrate the importance of adhering to approach procedures.

At the minimum range of 0.5nm, the offshore structure was not in sight and I called for the turning missed approach procedure to be executed. As we turned away and climbed I was shaken to see the oil platform in a twenty degree bank suddenly appear in the 1 o'clock, hurtle down the starboard side and be passed before I could even squeak.

The CAA gave us the following reply to this report:- 1.The Airworthiness Division has been asked to supply information on the accuracy, reliability and calibration of weather radar equipment currently in use by North Sea helicopter operators. 2.The Operations Planning Directorate concerned has been asked for its views on offshore let down procedures. 3.BALPA has been notified of our intention to review the offshore let down procedures.

GOING TO THE FLICKS

In the cruise, VMC on top in bright sunshine, blade flash through the front rotor system onto the flight deck caused an increasing feeling of unease and tension. After about 45 minutes I left the flight deck and obtained a baseball cap from my Nav bag and returned to the flight deck, the symptoms immediately began to subside and disappeared totally within 10 minutes.

This problem has occurred before when I didn't have a cap available and the problem continued until I either descended below cloud or completed the flight.

The problem of flicker generating feelings of unease has been brought up in other reports that we have received. We've taken some advice and this is the score:- 1.Sunlight through a rotor (or the setting sun viewed through a prop) can provide the sort of photic stimulation that generates epileptiform EEG patterns. 2.The CAA now screens, in the commercial medical, for those who are especially sensitive. 3.No screening is perfect, so you could find yourself in this situation. If so, shading the eyes, in the way descibed above, will work. Perhaps it would be a good idea to have a peaked cap handy just in case.

WHICH SWITCH?

The aeroplane has 3 INS's numbered 1 and 2, left and right and number 3 in centre way back on the pedestal. In the cruise returning to UK from West Coast States (8 hour time change - no sleep before a long night sector) No.3 INS failed - red warning light on CDU and blank display.

I reached up to the MSU's on the overhead panel to switch to attitude reference but switched number 2 instead - which happens to be the THIRD switch from the left (No.3 had failed remember). No excuses - mental aberration and tiredness do not mean that I should not have confirmed with the other crew members that I had the right switch, as in an engine shut-down for example. Suddenly we were down to one INS with no alternative form of navigation except DR. One thought occurs though - if the red "WARN" light on the CDU had a repeater on the MSU this would not have happened as the correct switch would have been obvious at a glance - rather like a fire warning light in the fuel cut-off lever with which this a/c IS fitted, to prevent idiots shutting down the wrong engine!

The departure was delayed half an hour due to re-role of a/c to freighter from late inbound pax flt. All pre-flt checks were rapidly done and cleared for T/O Rwy 27 and immediate rt turn direct on route. Once safely airborne (very light all up weight) I turned rt using about 45 degrees bank at approx 200' in a climbing turn. The non-operating pilot, whilst performing a panel scan, selected the APU off (it should have gone off pre take off). This was unfortunate since I had forgotten to select the engine driven generators on after start. A period of quiet darkness ensued which fortunately was penetrated by the bright lights of beautiful downtown thus providing good attitude reference. My colleague rapidly selected the engine driven generators on and the rest of the trip continued uneventfully.

All of this occurred due to the frustration caused by delayed aircraft prior to an antisocial three sector night freight flight but jolted me into paying more than lip service to check lists when in a hurry.

PUTTING PEOPLE FIRST

I was hand-flying the aircraft on a beautiful day climbing under London radar to FL 180. On seeing the beautiful view, I gave P2 the R/T and waxed lyrical on the cabin address about Bognor Regis & Selsey Bill!

At FL 186 I realised that I should have levelled off, and tried to steathily return to FL 180. The London radar controller instructed us to maintain FL 180 for about 30 seconds, before reclearing us higher - he had noticed!

This occurred:-

a) Because of my divided attention inside and outside the cockpit and cabin address. b) Because we (as a crew) missed our " one to go " reminder. c) Because P2 thought I was going to level off, and didn't say anything. d) Because of our unusually high rate-of-climb with a light pax load. e) Because this aircraft was not fitted with an aural FL warning, (only visual,) whereas some variants flown for the company do have, thank goodness.

Which all goes to prove that crew vigilance is vitally important no matter how relaxed a nice day makes us feel.

* * *

REF: DAZZLING REPORTS, FEEDBACK NO.8.

Two points:

a) If strobe lights operated by u/c switches, as opposed to weight system switches, they would be disturbing coming on as one climbed into cloud on a dark and dirty night.

b) If the " system " has failed those strobe lights may be the only clue the " other chap " has that you are on the runway.

We, in fact, are in the habit of switching the strobes on whilst taxying across active runways after clearance. No one wants Tenerife again!!

NOTHING CRITICAL?

For some time the helicopter fleet of this particular operator have had a sizeable amount of carried forward defects, that have been present for several months in some cases. Normally they are minor unrelated problems such as lack of heat control on a/c heater, or poor range reception on one VHF box. In addition to these problems crews are required by contract to wear MK.15 lifejackets.

On this particular flight at night the a/c had been delayed for bulky freight loading. When the aircraft finally taxied, it had been rotors turning nearly one hour.

The outbound flight to the first rig was uneventful. Aircraft departed the rig and climbed to 1000 ft (Helicopter Main Route crossing) - in addition the a/c does not have a full icing clearance and there were sleet showers around. However, 10 nms south of the rig there was an autopilot warning. Emergency drills carried out and they recommended continued flight on one lane of the autopilot only. I felt a night rig landing was, in my experience, unacceptable in this condition so a/c diverted to Base. Confirmation from Master/Minimum Equipment not available as CAA had only just approved a revised list which was not available in [Vol] 9 Ops Manual on the aircraft. About 5 minutes later there was a control input from the Aircraft - 18 degrees nose up 20 degrees roll. Captain took control, cancelled the autopilot completely. Aircraft control regained however no stabilization was left. During this time the heater had raised cockpit temperature to unacceptable levels and having to manually fly the aircraft unstabilized with a Mk.15 lifejacket was unbearable. These were removed bearing in mind the fact that each pilot had to fly both hands and feet on in turn.

Apart from being a frightening experience, I felt the associated human factors problem is accepting aircraft with C.F.D.s. Subsequent system failures highlight the possibly dangerous consequences of this practice which is becoming more standard in the pursuit of commercial gain and thus sacrificing flight safety.

*

Day 1:

Flying a/c X. Previous crew entered a defect in Tech. Log that No.2 Flt. system was defective and also showed a computer flag in partial view continuously except when in Off Mode. Engineers reported they had robbed a/c Y for spares. A/c X rectified.
Day 2:

Flying a/c Y. Tech. Log showed entry previous day - "No.2 Flt. system robbed to service a/c X". Rectification details stated missing item "Replaced, tested, now satisfactory". When airborne Flt. system No.2 showed computer flag in partial view continuously and did not behave normally.

This was a blatant attempt to get out of actually rectifying a defect due to lack of spares, lack of time or laziness. This is only one example of a summer where I flew a/c where defects were supposedly rectified but mysteriously re-appeared once airborne. No doubt next time I go to the company doctor with a medical problem he will sign me up as, "Ground tested, found serviceable".

SAY AGAIN

Holding for takeoff at RWY intersection RWY 18. I think tower said "Line up 'n wait". The captain read back "Line up 18", the tower acknowledged. I queried the call with the Captain. While lining up the Captain asked tower if he had said "Line up and wait" or "Line up 18". The tower replied with a puzzled "Affirmative!". With a continental accent and the background noise of the aircraft the two instructions sound almost identical. In this particular case the two different instructions had the same meaning, but the mind boggles at what could happen at an airport with several runways where an aircraft is taxying in fog. I mentioned this to

GUARANTEE
NO RECORD OF YOUR NAME AND ADDRESS WILL BE KEPT

NAME.....

ADDRESS.....

.....

.....

PHONE No.....

DATE OF RECEIPT AT THE R.A.F. INSTITUTE OF AVIATION MEDICINE

WE ASK THAT YOU GIVE YOUR IDENTITY ONLY TO ENABLE US TO CONTACT YOU IF WE ARE NOT CLEAR ABOUT ANY PART OF YOUR ACCOUNT.

IN ANY EVENT THIS PART OF THE FORM WILL BE RETURNED TO YOU, AS SOON AS POSSIBLE, TO CONFIRM THAT WE HAVE RECEIVED YOUR REPORT.

YOURSELF
CREW POSITION
TOTAL FLYING HOURS
HOURS ON TYPE

THE AIRCRAFT
TYPE
No. OF CREW

THE FLIGHT
DATE
FROM :-
TO :-
IFR/VFR
TYPE OF OPERATION

THE INCIDENT
TIME (PLEASE STATE LOCAL/GMT)
DAY/NIGHT
LOCATION
PHASE OF FLIGHT
WEATHER (IMC/VMC)

PLEASE USE THIS SPACE TO WRITE YOUR ACCOUNT, USING EXTRA PAPER IF YOU NEED TO

SEND TO: CONFIDENTIAL REPORTS, FREEPOST, RAF IAM, FARNBOROUGH, HANTS. GU14 6BR

YOU CAN ALSO OBTAIN MORE DETAILS BY TELEPHONING ALDERSHOT (0252) 24461 EXT 4375