

FEEDBACK

Issue No: 45

January 1998

Editorial

Air Traffic Control. Among the reports reviewed by the Advisory Board on 5 January 1998 were a number relating to air traffic services. After due consideration, the Board assessed the information to be of sufficient importance to be made available, in a disidentified form, to the relevant management agencies to facilitate an examination of the issues. The information has been passed to the Chief Executive NATS. As some of the issues may reflect on the effectiveness of the regulatory oversight of NATS, the reports have also been sent to Mr Richard Profit Group Director Safety Regulation CAA.

Cabin Crew Members. Readers will note that the report titled 'Health and Safety?' (Page 14) was submitted by a cabin crew member. After the recent extension of confidential reporting to engineering/maintenance personnel, it has been agreed that the Programme should also be available for the submission of safety related reports by cabin crew members. We will be publicising this initiative over the next month or two and would welcome suggestions as to the best method of advertising and implementing this scheme. It will be our intention to publish cabin crew reports that relate to topics of interest to the other specialist groups in future issues of FEEDBACK.

Engineering Training. The Joint Aviation Authorities are to issue JAR 66 (Certifying Staff Maintenance) on 1 March 1998. The provisions of this requirement are scheduled to become effective from 1 June 1998. After a long gestation period it is to be hoped that the standardisation provided by JAR 66 will be speedily adopted. The common standards and practices that it aims to achieve in training requirements within Europe will remove the uncertainties and anomalies currently experienced. There exists a clear requirement for more trained engineers and better training standards.

Anonymous Reports. In the recent past we have received a number of well written, interesting, anonymous reports. Regrettably, we have not been able to assist in these matters, or publish these reports, as we have been unable to validate important details with the reporter. Please remember the following:

- **We need your personal details to validate your report and, if necessary, obtain additional information**
- **We don't pass any information to third parties, or publish any text from reports without your prior consent**
- **We don't keep any record of your name or personal details - these are detached from the report form and returned to you**

Peter Tait

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CHANGE OF ADDRESS?
Please notify us by:
• POST: FREEPOST, RAF SAM, Farnborough, Hants GU14 6SZ
or FAX: 01252 543860
or E-MAIL: KirstyB@chirp.co.uk

A Reminder on the Magazine Format:

The following fonts are used:

- Disidentified reports. These are reproduced with minimum text changes
- *CHIRP Comments are italicised*
- Verbatim Third Party responses are printed in SWISS type

FEEDBACK - COMMENTS

The Morse/Clueso Mystery - A Solution (FB 43/44)

As I suspect that I am the ATCO involved in "chewing" Inspector Morse's ear, I read both his and Clueso's comments with interest, and will gladly solve this mystery, as I feel that both have missed the point of my actions somewhat.

Firstly, to Clueso, Morse gave you a clue in his letter, which you missed completely, and I quote, "I and a number of my colleagues were operating at night into a minor UK airport, which can get busy for short periods throughout the night." As all Aerodrome controllers are aware, Land After Procedures can only be used during the hours of daylight (MATS 1, Page 2-9, Para. 15). However, I do realise that a similar event could occur during the day, up to a point. The point being that no ATCO would issue a "Land After" to an aircraft on final approach if the preceding aircraft was:

- a) Not on his frequency, or
- b) If he knew that the A/C on the runway required a backtrack.

Secondly, the comment made by Morse that "normally after rollout, a backtrack to runway exit is executed without recourse to the Tower ATC" may apply at other airports, but certainly not at the one at which I work. I think the problem lies in the fact that pilots know a backtrack is required after landing on one of our runways and some of them assume therefore that they have carte blanche to carry out such a manoeuvre without speaking to the Tower controller. I spoke to my colleague in Radar, who realised that he had forgotten to instruct Morse to contact me on the tower frequency, (this was because he had already started the

next inbound on it's SRA). By the time Morse spoke to me, he had backtracked the full runway length to the exit taxiway. Meanwhile, I had to move a light A/C away from the holding point on this taxiway to accommodate Morse's exit from the runway.

My point is, as the Tower controller, I alone control A/C on the runway and expect any pilot who has landed on that runway to contact me before executing such a manoeuvre, that is why we are called Air Traffic CONTROL Officers. This problem was highlighted again on that night when a similar incident occurred with another aircraft, however, on that occasion I had a vehicle using the runway behind the landing aircraft (which, if the aircraft contacts the Tower frequency before backtracking, is a safe procedure). Radar and Tower controllers do liaise frequently. Indeed, we have an intercom system in place for this purpose.

Turning to the comment that "staffing problems had led to reduced ATIS updates" I would like to point out that when our ATIS was installed, ATS Standards were happy with us changing the ATIS only once an hour, it is standard practice at our unit, and not something which relies on staffing levels. The reason for the approach being different from that promulgated on the ATIS was due to the newly arrived nightshift controllers liaising with each other and changing the runway in use due to an increase in the wind speed. After all, few pilots like to land on a runway as short as ours with an 8 or 9kt tailwind.

As for cockpit workload videos, we are in dire need of these, particularly those controllers, like myself, who do not hold PPL's. Indeed, our Training Officer contacted several of our regular night-time operators in an attempt to obtain such videos, even offering to pay for them or return them when finished, only to be met with a big NO! on each occasion. I find it sad that at a time when air traffic is increasing and commercial pressures are being put on controllers and pilots, that the powers that be at these operators' headquarters are not interested in sharing information which would help controllers where flight safety is involved.

I, like Morse, sincerely hope that this can be overcome, operators please take note!

Following a number of comments regarding the availability of training videos from controllers in non-NATS units, NATS management were approached regarding the possible availability of the NATS ATC Emergency and Continuation Training Videos that were produced in conjunction with a major UK airline. NATS have agreed to make copies of these videos available to non-NATS units at an appropriate commercial rate, subject to agreement by the airline concerned. For further information contact Peter Jenkins NATS Contracts and Purchasing Section, CAA House, 45-59 Kingsway, London WC2B 6TE.

Familiarisation Flights

(1)

Regarding the comments on Familiarisation Flights for ATCOs, our Familiarisation Flight Office was recently closed without any consultation. Hopefully negotiations to re-open the Office will be successful.

I recently attended a Customer Awareness Course run by a major airline, which included a series of Familiarisation Flights. This was the most useful experience of its kind I have undertaken during my 30 odd years as an ATCO. I joined the crew of an EFIS equipped twin engine jet for a weekend flying four sectors and staying with them on a night layover. It gave a true insight into the problems faced by a crew and its bearing on their abilities and workload.

(2)

Having read the recent CHIRP report on Familiarisation Flights and the reply from the CAA I got rather a surprise when I applied through my ATS unit for one of the above in October. It seems that the office administering the programme had been closed and the responsibilities devolved to the separate Units. As no infrastructure had been put in place this meant that effectively there was no scheme.

It would appear that this decision was taken last summer.

No flight before 1998!

Further to the contents of the above, due to pressure from the unions the FAM Flight scheme has been re-instated but will not operate until January 1998.

This is obviously good news but still leaves a nasty taste.

The following response to these and other recent comments relating to the NATS Familiarisation Flight Programme has been provided by Keith Williams Director Safety and Operations:

Please let me clarify some points about the NATS Familiarisation Flight scheme.

Firstly, NATS believes that Familiarisation Flights are a useful part of an ATCO's background knowledge. Secondly, there was never any intention to stop them. The intention was to transfer the administration process from NATS HQ to the Operational Units. One benefit of such a change would be to develop a more 'focused' programme of Familiarisation Flights on similar lines to the very successful flights on our Airline Customer Awareness Courses for NATS ATCOs.

Unfortunately, it was not possible to transfer the administration locally this winter to produce the benefits and we continue with the traditional centrally organised Familiarisation Flight scheme.

Clearly the communication regarding Familiarisation Flights in NATS was not good enough - I will endeavour to do better in 1998.

Working Hours

(1)

With reference to FEEDBACK 44 "Editorial".

I have read my copy of AWN No 47 (Issue 2) very carefully but can find no reference to "an individual responsibility to ensure that rest periods are used for the intended purpose".

I wholeheartedly agree with this principle, but would like to point out that you appear to be in error quoting this in relation to AWN No 47.

Although there is no explicit reference in Airworthiness Notice No. 47 to rest periods, it is implicit in Para. 3.2 Fatigue, which states:

"Tiredness and fatigue can adversely affect performance. Excessive hours of duty and shift working, particularly with multiple shift periods or

additional overtime, can lead to problems.individuals should be fully aware of the dangers of impaired performance due to these factors and of their personal responsibilities".

This was considered to be relevant to the subject of the Editorial and hence the reference to Airworthiness Notice No. 47.

(2)

I work a permanent nightshift as a certifying engineer at ###, four nights on, four nights off with an on-duty period of approximately 11 hours. I find that I need this time to readjust to daylight hours and prepare myself for my next period on shift.

If the proposed EC Directive limited my hours to eight it would give my company no choice but to change my shift pattern to something like five nights on, three nights off, (more duty periods, less recovery time). Permanent nightshift workers are not nocturnal all the time! All the people in my charge agree that it is not the length of each individual shift but the number of consecutive shifts worked that makes a nightshift person tired.

Above all, will the company expect 11 hours, or so, of work to be carried out in eight? Indeed some larger jobs, which I tackle now, will in the future be handed over to the dayshift, who should be busy turning round aircraft.

The precise way in which the Directive is to be implemented has not yet been decided. It has been stressed that a degree of flexibility will be used in interpreting the provisions of this Directive, 93/104/EC, in particular variations to Article 8, which covers length of night work, might be allowed under Article 17 Derogations, as indicated below:

- "1. With due regard to the general principles of the protection of the safety and health of workers, Member States may derogate from Article 3, 4, 5, 6, 8 or 16 ...
 - "2. Derogations may be adopted ... by means of collective agreements ... provided that the workers concerned are afforded equivalent periods of compensatory rest ...
- "2.1 From Articles 3, 4, 5, 8 and 16:
- (c) in the case of activities involving the need for continuity of service or production, particularly:

ii) dock or airport workers;"

It may be beneficial to keep track of this part of the legislation.

Which QNH? (FB43/FB44)

The response in FB44 to the letter in FB43 regarding Regional QNH makes a sweeping statement in the opening sentence, "The Regional QNH is of real value". To whom and for what purpose one might ask? General Aviation (GA) is quoted as an example, perhaps it is the only example, but is it valid?

Who exactly are GA? In the main we are talking about PPL (*Private Pilot Licence*) holders who typically fly 55 hours in the course of obtaining a licence and a further 55 hours over the following 10 years. In other words people with a low experience level. The aspiring PPL student is confronted with the complexity of understanding four different pressure settings and when they should be used. QFE for landing and circuits. QNH for departure except at military airfields where they have an unnatural desire to use QFE for everything, regional QNH when en-route, and QNE when above 3000 feet. Is it any wonder that many get it wrong. The majority of PPL holders eliminate QNE (*Standard Pressure Setting*) by remaining below 3000 feet thus concentrating virtually all GA traffic in a 1000 ft height band, this leaves only three settings to grapple with.

Regional QNH is religiously set once away from an airfield, but what useful purpose does it serve? The textbook answer published in FB44 is far from reality. If the aircraft were IFR below 3000 ft it might be comforting to know there is a good buffer added to the Safety Altitude, but this is not the case. PPL students and holders frequently cruise around VFR in good sight of the surface, often below regulated airspace with the wrong pressure setting and little awareness of the possibility of an infringement. As the majority of GA pilots never go beyond 30 miles from the airfield, the suggestion that a QNH may not be available is hardly relevant.

When presenting a PPL student or holder with a practice forced landing they will invariably continue to use the regional

QNH thereby adding a typical 100 ft error to the height above ground. They will even arrive at a non-radio airfield with regional QNH set and not think to use the QNH from a neighbouring airfield or even that of the departure airfield which is invariably more accurate than the regional QNH.

In reality there is only one pressure setting of any relevance to most GA pilots, the QNH, which means that heights on the altimeter relate to the elevation markings on the map including the base of much of the regulated airspace. Whilst QFE may be of use for landing, it is invariably set too early giving an altimeter readout that is totally meaningless. Keeping it simple for the low hours PPL holder must have a far greater safety potential than a met. man's guess at a regional pressure setting.

Further danger comes from the choice of Transition Altitude (TA) in the UK. If this were raised to a sensible level i.e. the level where minimum traffic density occurs and well above the highest ground two further problems are solved. Firstly it would eliminate the possibility of pilots flying into high ground with an incorrect altimeter setting and secondly it would result in more GA traffic using a wider altitude band for en-route cruising. The concept of flying Quadrantals above 3000 feet is virtually impossible in the UK due to a combination of cloud and controlled airspace. By raising the TA, PPL holders would invariably operate below it whilst professional GA traffic would predominately operate above it.

I fully support the claim regarding the irrelevance of regional QNH put forward in FB43. The semi-official response in FB44 merely serves to show how out of touch some people can be. The best example of safety by simplicity is in the USA. One pressure setting to 18,000 feet. QNH, no QFE or other irrelevant claptrap.

ATC REPORTS

Holding Procedures

I have noticed a number of occasions where 'glass cockpit' aircraft entering a holding pattern have unexpectedly turned the wrong way.

The first occasion was when I was on a Familiarisation Flight into a major UK airport. I discussed it with the crew and the pilots stated that there were a number of holds in the FMS that had the wrong direction fed in. Since that incident I have watched other aircraft have problems when entering a hold. Bearing in mind that separation from holding stacks is calculated on the direction of hold, there could be a safety problem before long.

There seem to be two factors involved:

1. The FMS may have incorrect information in the software.
2. The crew have not expected to hold and not checked the system, nor briefed themselves to hold.

On the flight where I first saw the problem the crew mentioned that more notice of an intended hold would have helped. I believe that pilots should be made aware of the fact that the decision to instruct aircraft to take up a hold is often made at the last minute because the controller is getting busy and cannot think of anywhere else to go, safely, with the aircraft. It is initially a human reaction to a temporary overload situation.

Holding at major airports has become more frequent as traffic density has progressively increased, even when a full radar approach service is available. Holding assists a controller in two ways. It can relieve congestion by delaying the forward progress of a flight and it can enable a controller to temporarily defer his/her acceptance of directional responsibility for the flight.

If an aircraft turns the wrong way when entering a hold, the effect on the controller is that he has failed to defer direct involvement with the flight and his/her workload has probably increased as separation may be compromised. Evidence suggests that this wholly undesirable event occurs on a significant number of occasions and usually involves an FMS equipped aircraft. So a few questions may be pertinent.

- *How often do we enter the hold in the active FMS route at more than 30 nm to run to the fix?*

- *How carefully do we cross check the FMS version of the proposed hold with the let down plate?*
- *How often do we cross check our colleague's FMS entries?*
- *How often do we perform these checks on the third approach today or the 10th this week?*
- *How carefully do we monitor the autopilot during the entry turn?*

Judging by the number of RTF requests for an estimate of the delay, which normally receive a non specific response, perhaps much of the above activity occurs only a few miles prior to the holding fix, when the actual ATC request to enter the hold is confirmed. In such circumstances the possibility of an error passing unnoticed is greatly increased.

At times of high traffic flow, ATCOs aim to keep the traffic flow as close to capacity as possible and manage this difficult task extremely well. A late request to enter the hold is therefore the occasional inevitable result of controlling near the maximum. It is the worst possible time to introduce an unplanned deviation from the norm.

In most FMS configurations, considerably more keyboard activity is required to enter a hold into the Active Route (and amend it where necessary to reflect the specific holding pattern requirements), than is required to delete the option. Therefore good time management dictates that a hold should be deemed the norm and deleted when not required, rather than a last minute activity to address the exception.

Would this procedure not be a small price to pay to avoid the embarrassment of error, the unnecessary increase in controller workload and the potential for serious conflict?

ICAO Aircraft Type Designators

I have eagerly awaited the long required change from ICAO with reference to International aircraft type designators. When I read the Unit Temporary Operating Instruction, which I believe was taken from ICAO Document 8643, I could not believe what I was reading.

The job of an Area ATCO is to provide a safe and expeditious flow of air traffic. To achieve this we have various aids to make this job as easy as possible, radar and flight progress strips (FPS) being the obvious starting blocks. The data contained on such flight progress strips is essential to forward planning, and in a busy terminal area, the most important piece of information on the FPS must be the aircraft type.

Although a number of factors affect aircraft performance, such as aircraft fuel load, passenger and cargo loads, sector length, airline operating policy, almost all ATCOs will tell you that, for example, a Boeing 737-500 fully laden will out-perform a Boeing 737-300, fully laden. In the case of the old designators it was possible to discriminate between the Series (B73V, B73S), but the new system uses the designator 737B for all Series of the B737. How can we differentiate between the types without asking each pilot? The fact that we can't seems to be a giant backward step and I wonder whether it was considered.

A very similar observation can be seen daily on our radar screen in the case of the A320, for which the designator was EA32. When the new generation Airbus A321 type was introduced by a European airline, which flies regularly between London and Europe, it was almost immediately apparent that the aircraft did not perform as well on departure as other A320's did. As in the case above, the new ICAO designators will be A320 for both types and this designator will also include the "Pocket Rocket" A319!

I understand that grouping such types together may make automated ATS data exchange easier, but, although the examples that I have picked seem to me to be the most obvious flaws, I feel that the priority should have been given to air traffic control aspects.

I and many of my colleagues would be interested to learn whether the following codes were even considered by ICAO:

- Boeing 737-100 - B731
- Boeing 737-200 - B732
- Boeing 737-300 - B733
- Boeing 737-400 - B734 etc.
- Airbus A319 - A319
- Airbus A320 - A320
- Airbus A321 - A321

This format could also be applied to all Boeing aircraft types that have different variants that also, performance wise, are significantly different.

The following comment has been provided by George Ennis Head of ATM P&D, Directorate Safety and Operations NATS:

The correspondent rightly recognise that the data contained on a flight progress strip is one of a number of sources of key information used to support the provision of ATS.

The (ICAO) revision has addressed a number of inconsistencies and brought the majority of the document in line with its stated aim. However, there are instances (the B737 and A320 families being just two) where there is scope for further improvement.

ICAO has prepared the document for worldwide use, however the revision has failed to recognise that there are Regional variations (such as wake vortex categorisation) in ATC operations. As a result of inputs from the UK and others, ICAO has recognised opportunities for further improvement, and States have been invited to submit proposals for a further revision to Doc.8643. NATS is presently co-ordinating its response to ICAO, however, it is too early to speculate as to the precise form of any revisions at the present time.

An Alert Bulletin (AB 97:55/11-1) was recently issued by the US confidential reporting system (ASRS) highlighting the same problem of being unable to discriminate between aircraft types with dissimilar performance.

Procedural Awareness

(1)

Aircraft inbound on direct track from XXX descending to FL65. On handover from ##### Centre I cleared the aircraft to descend to the MSA (*Minimum Sector Altitude*) and to carry out the VOR DME procedure to runway ##.

A couple of minutes later a helicopter called (no prior notice) at 3000 feet, approximately 25 miles from the airfield. The helicopter's altitude and route were such as to preclude procedural separation from the landing traffic. Essential traffic information was passed and I telephoned the radar controller at Centre. I was told that the helicopter was becoming intermittent on radar "and that's why I told him to contact you".

On this occasion we were able to resolve the conflict, but my concern is that this is not the first time that Area Controllers have failed to understand the implications of and the limitations on procedural approach control in the FIR, or even the fact that inbound aircraft may have to fly an approach procedure involving large track alterations and routings which may take the Aircraft many miles (9nm in this case) away from the navigation aid in use.

I feel that Area Control Training may have become too narrow and specialised.

(2)

An estimate was received on inbound traffic and FL70 was co-ordinated as the inbound level to the 'ABC' VOR via ###.

A short while later I then requested joining clearance for outbound traffic also routing through ###. Clearance was given to join Controlled Airspace at FL70!

(Problem No.1 - why do Area Radar Units sometimes give procedurally unsafe joining clearances?)

Due to the inbound at FL70, the outbound traffic was initially only given climb to FL50 on departure to ###. The first call received from the inbound traffic was "South of ###, descending to altitude 3500ft from FL70 routing to 'ABC' VOR".

(Problem No.2 - A technical loss of separation, caused by no further co-ordination before inbound traffic was given clearance to descend.)

Procedural control is hard enough without Area Radar Units apparently disregarding co-ordination and generally not showing any appreciation of life outside controlled airspace.

ENGINEERING REPORTS

Training and Experience

The transcript of an appraisal meeting with an engineer, who is under my supervision and who has had continuing problems since joining the company, follows.

After I opened the interview explaining that I wished to understand the reasons

for his difficulties, the interviewee said it would be useful to talk about his background first.

He had obtained a basic licence after a college course and had joined the company after some work experience with three other organisations. When he joined our company, on the basis of his licence qualifications, he was put to work on line maintenance away from main base, although he had no previous experience. He was the only avionics engineer and in the year or so of his assignment at the line station had received little or no support to improve his knowledge. He had lost confidence in himself and felt others had also. This inhibited him from asking questions when in trouble. Following his recent transfer back to main base he still felt he needed support.

I asked about his knowledge and experience on Technical Logs, we agreed he needed more tuition. We discussed his pace of working, he said his lack of electrical knowledge meant he needed more time looking at books with the result he felt others thought him slow and lazy.

Fault-finding was discussed, the engineer said he had had to teach himself; he acknowledged his lack of experience and his need for encouragement and motivation. It was agreed that he would be placed with an experienced engineer to improve his skills; it was also agreed he would take the ### type course within six months.

With regard to his ab-initio training the engineer said that he had only been taught to pass exams at college and not to gain a full understanding of the subject.

On closing the interview with an agreed date for a further review, the engineer said that it was the most constructive thing that had happened to him.

I have submitted this report to support my concern at the way in which CRS authority can be granted without sufficient experience.

The various aspects of this report have been discussed with CAA (SRG).

On the question of authority to sign-out aircraft, CAA pointed out that, under existing legislation, engineers are not allowed to sign-out aircraft using their

licence for a minimum of a year after completing ab-initio training. However, although this may provide some protection by giving the individual practical experience, it does not ensure competency. Furthermore, Company Authorisations may offer the opportunity to circumvent this particular restriction.

With the advent of JAR 66, a minimum qualifying period of two years, to gain experience after initial training, will be required before issue of a licence. JAR 66 is scheduled to come into effect from 1 of June 1998.

With respect to the training described, CAA advised that it is fully aware of the reported problem and, in the course of a recent audit of an ab-initio course, the Authority had been obliged to withdraw their Approval for similar reasons to those cited.

Finally, it is pleasing to note the assistance that has been agreed in this case, which can only be to the benefit of both the individual and the company.

Commercial Pressure

(1)

A contracted operator, XXXX was operating on behalf of my airline, YYYY when I came on duty.

I was given a verbal hand-over regarding a fault discovered by the flight crew during their pre-flight checks; as a result, the aircraft was "Tech AOG" (*Aircraft on Ground*).

Arriving at the aircraft the crew were running through their flight deck checks and I observed the warning caption on the centralised warning panel (CWP).

The first of many distractions and additions to the pressure that was already present came, "How long until the aircraft is serviceable?"

I informed XXXX Load Control that they would have an update in 30 minutes, after I had time to read-up on the system checks.

The defect was confirmed. I informed XXXX and YYYY Line Maintenance Controls (*LMC*) of my findings and what

replacement parts were required some 40 minutes since first arriving at the aircraft.

XXXX LMC informed me that this defect was a known problem and could be cured by a very rigorous re-rack of the warning electronics unit: pressure to obtain a quick fix by carrying out an extremely unprofessional and potentially highly damaging procedure. This action I declined to take.

The nearest stock of spare parts was at another UK base, from which delivery would take around 5 hours. It was made obvious that I was directly responsible for the continued delay as the 'Quick Fix' solution would have sorted out the problem. More pressure. I suggested to XXXX LMC that the spares should be sent down by "Hands of Crew" to save time.

Many phone calls from XXXX Load Control and YYYY LMC, all asking "How long after receipt of spares will the aircraft be ready?" A very loaded question: at this time the spares had not left the other base! I explained that if the spares cleared the defect, the aircraft would be serviceable one hour from receipt of spares. More pressure.

The aircraft containing the spares arrived on time. I met the crew and asked where the AOG spares were, to be informed that the items had been manifested as cargo and warehoused!

Another wave of phone calls came my way asking "How long?"

The spares finally arrived after an hour, but a part had been despatched without its accompanying paperwork.

XXXX LMC asked very abruptly why I had not fitted the spare, to be told that stores had not yet released the part. This phone call ended at this point.

Three hours after the spares had arrived I received another phone call from the YYYY Logistics Department stating they were fully prepared to release the actuator without all of the relevant documentation for me to fit to the aircraft. I refused. Further heated phone calls were received from XXXX LMC.

After fitting the spare and functioning the affected systems, the aircraft was declared serviceable four hours after the spares had arrived at the airfield.

To summarise:

- a) Undue and wholly unacceptable levels of pressure exerted on an Engineer primarily concerned with the safety and airworthiness of his aircraft.
- b) Involvement by both LMC Departments resulting in potential compromise to maintenance procedures and standards.
- c) A Logistics Department turning a blind eye to laid-down procedures.

This is commercial pressure passed on to the Certifying Engineer. A more junior Engineer may have capitulated, only to find that had anything gone wrong, he was on his own.

The airline involved in this report had established LMC and Logistic units within the organisation with the objective of removing the pressures of responding to multiple queries on serviceability, resolving spares problems etc from the responsible Engineer. This would allow him/her to get on with the job of fixing the aircraft.

In this instance, which was complicated by the involvement of a third-party organisation, these units only added to the engineer's problems, largely through the medium of that wonderful modern invention - the mobile telephone.

This problem has been brought to the attention of the airline management and has been acknowledged. Appropriate action is being taken to address the issues raised by this reporter.

(2)

On entering my hangar I was greeted with the all too familiar call of can you clear the routine cards and final CRS (*Certificate of Release to Service*) for radio/radar on the night shift aircraft. The staff, which had carried out the work, had gone off shift. Of course I refused as this is in direct conflict with AWN (*Airworthiness Notice*) No. 3. It was then agreed that I would re-do the work involved and then clear the CRS's. When this job was completed another aircraft was specially brought-up from line to the hangar so that I could work a radio defect (one assumes again no radio/radar CRS cover on line for this type). As I was starting to carry out that work, I was then

called to another hangar to do the final walk round and final CRS for a wide-body aircraft. Obviously no radio/radar CRS holder in this hangar for this type.

This type of practice goes on all the time. I have been told by many CRS holders that they have been subject to it. On line, Engineers apparently go running around some time after work has been carried out, just to sign the logs.

On many occasions I have been asked to clear work after it has been done with NO personal input from myself. Of course, YES I refuse, but it does not stop my management asking me on a regular basis.

I know of at least two company reports, which have been raised with no reply.

This sort of practice, although openly condemned, is privately encouraged, and accepted by many. Is this due to financial pressures, or do people just not care about rules and regulations? No matter what, it's a dangerous practice by all those concerned.

I wonder how widespread this is and how many would own-up to this going on?

AWN No.3, Issue 13 of 4 April 1997 states in part in Para 1.5:

"When issuing a Certificate of Release to Service for work performed by others, the certifying engineer assumes responsibility. The certifying engineer must have inspected a sufficiently representative sample of the work and the associated documentation, and be satisfied with the competence of the persons who have performed the work."

Remember, no matter how good the other person is, or how well you know him, this may be the occasion he has made an error. There have been several recent serious incidents, in which the certifying engineer either assumed that the task had been done correctly, or failed to sample the work in an appropriate manner before signing the task off.

It's your 'neck'. Don't get trapped by the system..

Flying Spanners - Bent out of Shape?

Our company is planning to support a charter operation this winter with a

travelling Licensed Engineer flying a series of flights, which involve consecutive sectors between the USA, Africa and the Indian Ocean region, including the return to the UK.

The planned flight sequence is for the engineer to depart with the aircraft early morning on Day one, carry out turnrounds at each location, including a short nightstop down route. Day two, one of the turnrounds will be an ETOPS despatch. The aircraft is scheduled to arrive back in UK in the early hours on Day three after at least 30 hours duty with a maximum rest period available on the nightstop of 10 hours. The engineer will be on the jump seat as no other rest facility is available in flight.

The company is now re-assessing the support of the proposed schedule and is considering a number of options. These include using other organisations to assist the operation with their own Engineer flying only part of the trip, or locating an Engineer at the night-stop for the duration of the programme.

English Comprehension

Whilst servicing a ### (large twin jet) belonging to a foreign operator a colleague pointed out a deferred defect entry in the Tech Log, which stated that an hydraulic elevator actuator had developed a leak and had been blanked-off pending receipt of spares.

Having checked their allowable defect manual, we couldn't find any reference to this item that would allow this aircraft to fly. Following a discussion, we contacted the operator at their base for clarification. The reply that we received in the form of a fax contained a copy of the text from the general introduction to the relevant ATA Chapter of the Maintenance Manual, which read as follows:-

"Deflection of the elevators is caused by six *flying control actuators*. Three *actuators* are attached to each left and right outboard elevator. Each set of three *actuators* is powered by the left, right and centre hydraulic systems.

Only one *actuator* is needed to control each of the elevators."

The fax added: "We have the left and right *actuators* on the left elevator serviceable."

My understanding of the situation is that this aircraft should have been grounded and not allowed to fly. I also spoke to the Captain of the aircraft pointing out this defect who was not very happy, but in the end took the aircraft back to base.

The reporting Engineer was of course correct, the aircraft should never have operated in this configuration.

The particular incident has been brought to the attention of the Regulatory Authorities concerned. However, this is a sobering example of the underlying problem in some parts of the industry of the level of understanding of information contained in Aircraft Manuals by Engineers, whose first language is not English.

Information on this incident has been passed to the manufacturer requesting that the relevant text be reviewed.

Not Only Has The British Library Reading Room Moved!

Needing to consult a manufacturer's Data Sheets to assist in the correct execution of the task in hand, I attempted to visit the Main Base Technical Library - only to find the door locked. On looking at my watch, it being 3 o'clock thought: maybe they are at tea-break.

Seeing a fellow member of staff, who occupies the adjacent office, I enquire if this is in fact the case? Oh no, comes the reply, didn't you know they have moved to the school?

Expletive is uttered at thought of journey off-site one mile away on dark rainy night (it always is ...) and no transport available. Not to mention extrication of keys from stores - first find your storeman etc.

I would question whether all Engineers would willingly do this on every occasion, or would they say: "It'll do a trip ..." ?

FLIGHT DECK REPORTS

CFIT - How Easy Can it Happen?

When we read of CFIT (Controlled Flight into Terrain) accidents and the subsequent accident investigation, the question that

often arises is how the flight crew allowed themselves to lose situational awareness. Regrettably, it is rare that we are able to learn first hand of how the situation developed.

We were one of several corporate jets carrying VIPs to attend a conference in #### (A foreign destination). The destination airport was at low altitude, but with a mountain range running NE/SW, about 10 miles NW of airport.

We arrived at about midday in CAVOK conditions (visibility 50nm), so little attention was paid to the Arrival Charts, as approaches were visual after leaving the airway.

Departure was delayed, as usual, by several hours resulting in a night take off at 2000 local for the return flight. The flight plan route was via designated airways, which because of airspace restrictions in the area meant a four-hour flight along two sides of a triangle rather than a two and a half-hour "direct flight".

The aircraft ahead of us requested a "non-standard" departure to the Northwest and was cleared at pilot's discretion. We lined-up for take-off five minutes later requesting same routing. Take-off to the Northeast was normal and before we turned left, the aircraft ahead was asked for his rate of climb and level passing. He replied "FL60 at 3000 fpm". We were cleared to FL100 at 2000 fpm maximum rate of climb. Leaving climb power on at the reduced rate of climb resulted in a 300 knot climb as we turned Northwest. The radio altimeter went off at 2500 agl just as we went IMC.

For no discernible reason, I was overcome with that undefinable sense of unease that causes neck hairs to stand up! Just a couple of seconds later in a very rapid instrument scan I actually saw the radio altimeter "click" back on at an extremely rapid closure rate. Instant auto-pilot disconnection and a 30 degrees nose-up yank on the controls stopped the radio altimeter at 600ft! My enormous relief and feeling "smart" for saving myself (oh! and eight VIP's too) rapidly dissipated when I realised that the entire episode was of my own making.

To this day I cannot work out whether I would now be spread about 20 feet below the mountain tops, or if I would have seen

a Rad. Alt reading at 10', at 300 kts, IMC, at night!!

Lessons that are too obvious to labour include:

1. Just because it is VMC when you land, you still need to obtain and READ the Met information before the next sector.
2. Know your local topography (usually only in the arrival plates) and particularly safety altitudes.
3. If it isn't standard, YOU are totally responsible for working out your OWN terrain clearances.
4. Just because ATC issues a clearance at "pilot's discretion", that's exactly what it means, not that it is necessarily safe.
5. More than a hint of press-on-itis, trying to get home as quickly as possible after a long day is never a safety factor.

Communications

(1) - The Correct Way

Cleared by ### on a CCC standard departure. Checked with Area Radar after departure "Aircraft Callsign - on a CCC standard departure". Radar replied "Cleared to 3000".

Following CCC, the standard SID states - climb to 4000' after CCC to DDD, EEE NDB at 5000'.

Therefore, following CCC NDB we informed ATC we were leaving 3000' for 4000' on the SID. The controller replied that we were to remain at 3000'.

I feel there is scope for misinterpretation of a SID and a possible accident. Surely the controller on acknowledgement of our initial check-in call should have either said:

a) "cleared to 3000' to maintain"

or

b) "cleared on the standard SID"

The R/T was non-stop and we could not get a word in to clarify. Could this situation please be clarified for us through CHIRP?

The following clarification has been provided by CAA (SRG):

The question of communications and "stepped SIDs" is one that is arousing a great deal of interest. However, the points raised by your correspondent may be answered by reference to the Radio Telephony Manual (CAP 413) and Manual of Air Traffic Services Part 1 (MATS Pt 1). To ensure that no ambiguity with clearances exists, these documents require that certain elements are read back (CAP 413 Para 2.7.5.6 and MATS Pt 1 E8). These include level instructions. Controllers are to prompt a pilot if a read back is not immediately forthcoming. Any errors must be corrected by the controller until an accurate version is obtained.

MATS Pt 1 (page 1-27) also advises controllers the procedures that must be used when issuing amended clearances. This states:

"When an amendment is made to a clearance the new clearance shall be read in full to the pilot and shall automatically cancel any previous clearance. Controllers must be aware, therefore, that if the original clearance included a restriction, e.g "cross ABC FL150 or below" then the issue of a revised clearance automatically cancels the earlier restriction, unless it is reiterated with the revised clearance".

Therefore, it can be seen that in the reported incident the controller was required to ensure that the pilot was fully aware of the restriction to maintain 3000ft e/g by instructing "callsign, climb to altitude 3000ft" or "callsign, stop climb altitude 3000ft". A satisfactory read back should then have been obtained to ensure that all were totally aware of the controllers' requirements.

(2) - The Real World?

I have been following the various comments on R/T procedures for some time.

As in many other fields, the replies you tend to publish from the relevant authorities do tend to re-iterate the "theoretical" line, ignoring that in many ways the situation might be a good deal WORSE than it already is, if those "correct" procedures were actually used all the time.

The "mis-use" of R/T is a common theme. Surely, however, the authorities must realise that many frequencies being used at major airports and in controlled airspace are actually AT saturation now. If every single transmission was to be made and read back as it is supposed to be the loading would be unsupportable.

Yesterday, for example, I was changed by #### to the London inbound frequency

and was totally unable to call them for several minutes due to the traffic. I actually transmitted six times, keying the mike just as a previous aircraft had replied to an instruction; on each occasion when I ended my brief call the controller was already talking, and had obviously keyed the mike at exactly the same time as I.

I did make the point that it would be helpful if the controller was able to listen out for a second every so often.

By the very nature of the beast, it is the controller who will be initiating most transmissions and if he or she doesn't give a chance to the aircraft up there they might as well be on a different planet. In fact in the above case I never DID get an inbound clearance.

It is no fault of the individuals - things are just getting too saturated.

(3) - Language v Understanding?

During our preparations for departure from ### (A major European airport) in a XXX (Foreign registered twin engine corporate jet), the ATIS information that I obtained, stated Runway AA was in use for landing and Runway BB for departure. After requesting taxi from Ground control I was advised to taxi to Runway BB. Upon reaching the holding position I pulled to the right to hold behind a YYY (Medium tri-engine jet). I advised ground control that I had arrived at the hold for Runway BB and was instructed to monitor tower.

After monitoring the tower frequency for two or three minutes, I called to inform them that I was holding behind the YYY. I was told to hold position. While I was holding I observed a low approach by a Business Jet on Runway AA and a ZZZ (Medium twin engine jet) landing on Runway BB.

After the ZZZ had rolled across Runway AA, I was cleared into position Runway BB and hold, which I acknowledged. I verified that the final approach was clear and taxied onto the Runway. While sitting on the Runway, I listened to a series of transmissions in the local language (somebody speaking and somebody else responding) without understanding the conversation.

I was still waiting for my take-off clearance when suddenly I heard a very excited and agitated voice over the radio shouting in the local language a phrase, of which all I understood was: " on the runway". The phrase was repeated four times by the same voice at which point a twin engine jet passed over my aircraft at a very low height and landed on the runway in front of me, at a point that appeared to be short of the 1000'/300m ILS touchdown point!

I was at a loss to understand why neither the aircraft Captain nor the tower decided to initiate a Go Around and why he was cleared onto Runway BB.

Although this highly unsafe and potentially dangerous incident was probably the result of simple human error, I believe that if everybody on the frequency had been speaking the same language then at least I would have been able to question the clearance given to the landing aircraft.

Needless to say, this incident was formally reported to the relevant National Regulatory Authority.

However, it is a sobering example of how easily language can contribute to a potentially catastrophic incident.

Monitored, but Forgotten

We were making a procedural ILS approach at #### after a two-sector, long duty day and a VOR approach to limits on first sector.

Extensive thunderstorm activity was present near the VOR fix for the procedural ILS, making it difficult to establish outbound from the VOR. The turn onto the ILS final approach from the VOR radial was greater than 90deg and with a following wind, caused the aircraft to go through the ILS centre-line. We called established on Approach frequency and were asked to change to Tower frequency. We remained in heavy precipitation and cloud to approximately 100ft above DH, and continued the landing onto a wet runway. After landing, we were asked when we had obtained landing clearance. We then realised that we had changed to the Tower frequency but had not contacted them and hence had not obtained landing clearance.

The company has recently changed the SOPs for our fleet to a monitored approach system. This requires the landing pilot to take control at various different stages of the approach, dependent on when he is visual and when he wishes to assume control for the landing. When the landing pilot takes control, the non-landing pilot takes back control of the radio. As a result sometimes the landing pilot obtains landing clearance and other times the non-landing pilot. I appreciate that one of us should have picked up the error, but given the above circumstances, our concentration was predominantly on ensuring that the aircraft was following the ILS and preparing for a possible Go-around.

I have no strong feelings one way or the other on the monitored approach system, but following the above incident I have spoken to several colleagues who have said the above could well have happened to them, had they not received a prompt from the tower.

This appears to be a weakness in the monitored approach system that could easily be addressed and put right.

When we went up to the tower to apologise for our oversight, we were told that another of our company a/c had done the same the previous month. The controller agreed to forgive me on this occasion as long as I made the company aware of the situation. Needless to say I filed a report saying much the same as I have here.

On our previous arrival to this airport, we had been given landing clearance on Approach frequency and were instructed to change directly to Ground frequency after landing (i.e. no use of the Tower frequency).

Defect Reporting

The reporting of defects in the Tech Log is basic to the proper engineering management of any aeroplane. However, if 'transient' defects continually occur, but then 'go away' without rectification, is everyone, pilots included, so conditioned that defects of this type in combination can become an unnoticed hazard. CHIRP has addressed this same issue before.

As one example, by chance we operated the same aircraft (*large twin engine jet*) over a period of four days during which we flew six of the sectors flown. We were plagued with repeated 'false' system malfunction messages, one of which was a 'Turbine Overheat'. Then one of the Digital Flight Guidance computers appeared to fail, refusing to speak to anyone or anything for some 30 minutes. During the period of failure, no 'false' warnings appeared in the system.

The faults were reported to Maintenance and I suggested the computer as the probable cause. During the discussion with Maintenance, I was surprised to learn that they had no prior knowledge of the faults, which MUST have been experienced by the other crews in the interim. There was no record of the problem in the computer memory and no entries in the aircraft Tech Log. Maintenance requested that the problem be entered in the Tech Log and arranged for a computer change on return to main base.

Unfortunately, there is nothing particularly unusual in this sort of thing as so many people have come to accept it as normal, but sooner or later!

Perhaps the modern term to describe it all is that a 'culture' born out of operational necessity and the wish to 'get on with it' has emerged in some places, with the potential risks being ignored.

Health & Safety?

I am employed as a cabin crew member with (*a UK operator*)

Recently I was called to a meeting with management. After some discussion it was clear the company had decided to take action to dismiss me on the basis of my sickness record, which had amounted to less than one day per month of the period of my employment with the company.

The company's operation demands that cabin crew work long hours with little rest: a typical day can be up to four sectors in an 11.5 hour day, with a late finish. Because we are operating with a legal minimum cabin crew with turnarounds routinely scheduled at 25-30 minutes, it is simply impossible to take

rest between sectors. The operation includes consecutive night stops, and none of our hotels can provide food on a late finish. The crew catering is not managed with any regard for Health and Safety Regulations and is often inedible.

With all these factors against us it is very hard to avoid becoming run-down. Therefore sickness across the cabin crew as a whole is high, in comparison to other airlines. (I have been employed with another UK airline without health ever being a problem.)

Other cabin crew members have been dismissed on the same grounds. As a result of this action by the company, cabin crew, who have had time off sick in recent months, (like myself, for perfectly genuine reasons) are very concerned that they will be fired next.

The situation now is that most cabin crew are afraid to call in sick, and will fly when medically unfit, simply out of fear for their jobs. This clearly threatens flight safety. Due to management pressure I have often had to fly with crew members suffering from flu, vomiting, heavy colds and severe toothache. In the event of a major emergency we would effectively have one able person to assist close to 100 passengers. On the one hand the company Operations Manual clearly states we should not operate as cabin crew when unwell, yet the actions of the company make this situation impossible to avoid.

The company makes no provision for health-care. Medical fees when away from base are not reimbursed by the company. We are expected to rely on the EC form E111 for medical cover. This often requires the individual to pay and subsequently seek reimbursement of costs, making a consultation with a doctor unaffordable to many cabin crew. A company doctor exists, but medical assessments have been deemed inappropriate 'due to cost'.

I have called in sick, and been called back within one hour and asked to operate a flight. I am often called on days off and told a flight will not go if I do not work.

The company is an airline that is trying to operate on bare minimum's. All the above illustrates this. My personal situation is not the issue - but it does add pressure to my colleagues to operate in contravention

of the Air Navigation Order and to jeopardise flight safety. I am not happy that they should face this dilemma - be professional or lose your job.

A Question of Confidence

Cruising at FL410 in a ### (*foreign registered twin engine corporate jet*) when a loud "thump" was heard from rear of cabin. Cabin altitude immediately started to climb at greater than 2000 fpm. Emergency descent commenced to FL170 and passenger oxygen system deployed normally. Aircraft landed at planned destination without further incident, but having used 20% more fuel during the last hour at lower level.

This was the second similar system failure on this aircraft this year, so we are familiar with the drills but not confident in the aircraft design.

Urgent AD (*Airworthiness Directive*) or SB (*Service Bulletin*) action should be instigated to check this type at least for the length and positioning of the pressurisation duct sleeves.

The Design and Regulatory responsibilities for this aircraft type are held by foreign agencies. The reporter's concern has been represented directly to the manufacturer and is being monitored by CAA (SRG) on behalf of UK operators of the type.

Why the Error?

Shortly after take off, as the non-handling pilot, ATC asked me for our passing altitude. I gave it, at which point the First Officer corrected me and pointed out I still had QFE set. Embarrassed, but not dead. But why did I make the error?

My roster schedule had been Friday-Day off/Saturday-Day off/Sunday-Standby/Monday-very early report for four sectors. Finish 0645hrs for day stop to 1900hrs, then three sectors to finish very late.

At around 1700hrs Saturday, I received a telephone call from Operations. "Sunday is now a Rest day, after a report at 0500hrs and finish 0740hrs"! "Who's doing my night flights on Monday?" I asked. "You are" was the reply. Perfectly legal, but against CAP 371 Page 2, Para 2.3 (a).

It could have been much worse. The same error in IMC, with nobody noticing? Luckily I always brief my co-pilots "if you think I'm going to kill you shout out loud, because if I think you're going to kill me I'll flaming deafen you". Good job this one was listening, AND awake.

Perhaps it was because he was NOT my co-pilot on the two additional sectors that I had flown!

I have flown Post Office night flights in a variety of aircraft, many with autopilots removed to save weight, different radio/nav/radar fits/positions, secondary gauges fitted using the "shot gun" technique, fuel/flowmeter gauges in kilograms or pounds. Quite a challenge compared to the "glass"/"half glass" types, but it does reinforce the old adage "Don't assume - CHECK". With 30-minute quick turnarounds, no matter what size of aircraft, in the dark, in all weathers with financial penalties for delay (graduated), why are there not more incidents, let alone accidents?

And where are the regulators on cold, wet, windy early mornings?

Flight Operations Department Communications

Following a suggestion from a reporter to include information on the latest CAA (SRG) Flight Operations Department Communications, the following have been issued since November 1997:

4/97

Letter of Intent: Single-Engine Public Transport Aeroplane Operations at Night or IMC

5/97

International Public Transport Operations - Pilots Aged 60 and Over

Arrangements for the Appointment of Type Rating Examiners (TREs)

Serviceability Assessment of Flight Data Recorder Systems

6/97

Questions and Answers Regarding JAR-OPS - Subpart M.

Changes To Air Traffic Services Outside Controlled Airspace

The Directorate of Airspace Policy has promulgated a number of changes to the radar services available to aircraft outside controlled airspace, summarised as follows.

The radar services available to aircraft outside controlled airspace - namely Radar Advisory Service (RAS) and Radar Information Service (RIS) - have been with us since 1985. However, their provision has not been as effective as it should have been because of differences in interpretation by civil and military controllers. As a result, pilots have been confused by variations in service as they alternate between civil and military air traffic units, and controllers have occasionally been uncertain about the extent of their responsibilities.

These differences have now been resolved and common definitions agreed for RAS and RIS. The effect will be to standardise the provision of these services by civil and military controllers, and will entail the following changes from current practice:

When requesting an air traffic service, a pilot should state the flight rules -VFR or IFR - under which he is operating, since this will affect the type of service that is available to him.

Under a RAS, the service will only be provided to flights under IFR. Also, when providing a RAS, all controllers will seek to achieve - where possible - a minimum of 5nm or 5000ft separation against unknown conflicting traffic.

All controllers will be permitted to provide radar vectors to aircraft in receipt of a RIS, for the purpose of tactical planning or at the request of the pilot.

As was previously the case, pilots in receipt of RAS or RIS will remain responsible for terrain clearance. However, as a further safeguard, air traffic units will continue to set a level or levels below which a RAS will be refused or terminated and below which vectors will not be provided to aircraft in receipt of a RIS.

The revised definitions for RAS and RIS will be promulgated in the newly formatted UK AIP after 15 January 1998 on page ENR 1-6-1 at para 1.3, and will come into effect on 26 February 1998.

*****Level Busts*****

In 1997 there were 240 occurrences involving level violations in UK airspace. 50% involved only UK operators.

CAA (SRG) is promoting an awareness campaign to highlight this problem. A leaflet is enclosed.