CHIRP
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EDITORIAL

At CHIRP we have no remit or wish to become involved in industrial relations or contractual issues. However, such issues can have safety implications and it can be difficult to separate them. A report in the previous Edition of FEEDBACK described how one effect of a dispute between an operator and its pilots was that pilots were not accessing notification of flight delays before reporting for work. With some delays extending into hours there were potential safety implications resulting from the long duty days.

A more frequently reported issue is the impact of operators' absence management policies. An inflexible rostering system that makes it difficult to take time off could encourage individuals to report that they are too ill to fly when time off is required. How can operators achieve an appropriate balance between managing pilots' illnesses/welfare while minimising inappropriate absenteeism? How would we know when the balance has been achieved? We know currently it has not been achieved from the number of reports we receive about pilots being deterred from reporting unfit and pilots flying with colleagues who appear unfit.

Achieving that balance is unlikely to be assisted by contractual arrangements in which pilots are paid only when they fly or those containing disproportionate attendance bonuses. Disincentives to reporting 'sick' like these are particularly problematical as the most susceptible pilots are those who are working as contractors, many of whom are relatively inexperienced and seeking to pay off training costs.

Despite the disincentives to reporting unfit, we also receive CHIRP reports in which pilots and, especially, cabin crew prefer to report that they are unfit rather than fatigued because it is easier. Not only does this hide the underlying issues that caused the individual to feel fatigued, it exaggerates the real level of sickness absence and may induce operators to introduce additional disincentives to flying only when fit to do so.

At CHIRP we ensure that operators and National Aviation Authorities (NAAs) are aware of the reports we receive. Unfortunately, without further regulation and/or guidance from EASA or NAAs, it appears that it will be for the courts to decide whether contractual arrangements between employers and employees constitute onerous and/or inappropriate arrangements.

On a different subject, this edition of FEEDBACK includes a report entitled "Who is in Command of the Aircraft?" In seeking to answer the reporter's question we are hugely grateful to Edward Spencer of Holman Fenwick Willan for his advice about Vicarious Liability. Be sure to read it!

Finally, thanks also go to the CHIRP General Aviation Advisory Board for their briefing on General Aviation pilot training issues

Ian Dugmore - Chief Executive

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LACK OF SPARES

Report Text: I work for [ ] and recently it is becoming increasingly difficult and stressful trying to maintain the aircraft due to a chronic lack of spares in all forms resulting in robberies from Standby ASI to AIMS modules, to flight deck switches to FMUs , Anti-ice Controllers, PTT switch and even bonding leads. Bearing in mind this is our main base I find some of the shortages and spares difficulties are unforgivable.

We have been told that the senior management are aware of the supply chain issue and it is not going to be corrected anytime soon.

With the lack of available spares, short turn times for the aircraft and the management's drive for punctuality the pressure for the certifying engineer is increasing significantly in our role. It is also becoming increasingly common when informing the operations managers and control of an issue of a spare being nil stock which is required for an AOG defect for the question to be asked to the engineer, "well can we just...?" and request us to bend the rules.

The company complies with the regulations to put us all through Human Factors and procedures training and then the same people that have sat on the course ask us to break the rules.

I know the operations managers and shift managers are under a considerable amount of pressure from senior manager level and above to improve punctuality but the problem lies with our lack of spares and a completely hopeless supply chain operation.

A lot of my colleagues are concerned by the current situation and the phrase 'holes in the cheese lining up' is frequently used. We also believe that the company is asset stripping and has no intention to improve the supply chain and spares issue as it is a considerable cost.

***CHIRP* Response:** Robbing aircraft for spare parts is not in itself unsafe. It is undesirable as a matter of routine because it is frustrating for the workforce, inefficient and disturbs systems on the donor aircraft that would otherwise be left untouched. Moreover, robbing small items such as switches and consumables is a concern. Unfortunately robbing is on the increase across industry as spares holdings are being reduced to the minimum in order to save costs. Company Safety Management Systems (SMS) should track the level of robbing and operators, MROs etc. should have plans to recover to sustainable stockholdings.

The reporter agreed to discuss their concerns confidentially with a CAA Surveyor.

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PROLIFERATION OF NOTAM OBSTRUCTION INFORMATION

Report Text: Helicopter Task: 5 pax London-Blackpool and return.

Plotted route onto Sky Demon for weather and NOTAMS as per company SOP. NOTAMs contained the following:

31 Kite/Balloon warnings

27 UAS warnings

110 Obstacle warnings

Allowing approx. 1.5min per Lat/Long plotting, I estimate it would take 4.2 hours to plot this amount of information on to the requisite charts. Buried in the middle of these 168 warnings was a set of cranes at 700' agl directly opposite Battersea heliport.

The system is broken. Rather than increasing safety, post the Vauxhall Bridge crash, it has led to pilots having to ignore pretty much all obstacle/kite/UAS warnings, obviously something the Authority would not wish for.

As ninety percent of these warnings occur within areas where flight below 500' agl would be against the law due to proximity of Person, Vehicle, Vessel or Structure can we press for notifications only above 300'(obstacle/kite/balloon data) and 400'(drone data as this is the legal maximum height)?

As commercial helicopter pilots, we all wish to avoid CFIT/obstacles that could impact on our operations, but we need to sort the hazards into a manageable format in order to achieve the safety outcome required by the authority, whose remit construction companies are following.

Obstruction NOTAMs could be better listed/organised by risk level i.e. highest/proximity to route, given the most priority.

Lessons Learned - Despite 168 NOTAMS I found the one set of cranes that could have seriously impacted on our flight.

***CHIRP* Comment:** The report articulates well the number of extant NOTAMs which definitely present a manual map plotting challenge. The proliferation of NOTAMs about obstructions has been reported before but appears to be an intractable problem despite some innovative ideas. Electronic conspicuity is problematic in London because of the number of obstructions. Filtering the NOTAM set by altitude would be unlikely to be practical for police and Helimed operations, but it does help for pre-planned flights. The use of tablet and computer based planning tools (such as the free Sky Demon Light product) do make plotting the NOTAMs significantly easier and allow for route-only options to help declutter. The CAA has used the report and similar feedback from industry in raising the profile of the proliferation of NOTAM'd obstructions and their visual conspicuity to feed the broader piece of work that is under way on VFR access to the London CTR. In the meantime the Authority continues to raise this Sector risk with industry at safety seminars.

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EFB Chargers

Report Text: As you may be aware [operator] has an EFB (Electronic Flight Bag approval) and for that purpose we use Apple iPad devices. As time goes on the device and its accessories wear as normal. I think initially we have received iPad's in 2014 or 2015 and in my case by June 2016. My USB charging cable that we use for charging the device at home and while on duty on the flight deck was approaching its limits and due normal wear and tear the outer shell started cracking and exposing wires inside.

Since this became a concern not only for me, but also for my colleagues, I have requested a new charging cable at multiple points of contact:

1. Base Captain - said they don't have it and cannot help
2. EFB Admin - reply was similar to the previous -"it remains the responsibility of the user to replace or repair as necessary"
3. IT department - Which also said that cable is issued for a lifetime and that I should replace the cable by buying it myself and a link to the cable was attached to the email.

My concern is:

1. Shouldn't it be [the operator] supplying the spare accessories?
2. Shouldn't it be [the regulator] monitoring that [operator's] established device monitoring system is effective and devices are not only compliant in terms of software updates, but also a basic hardware such as charging cable?
3. I already noticed that many colleagues continue using damaged cables and in numerous cases use manufacturer (Apple) unauthorised cheaper and poor quality alternatives. While none of these caused any incident as far as I am aware, it's still good time to take some action before some short circuiting occurs.
4. I think flight crews should not be issued with a charging cable for a life time and as such should not be forced to buy the charging cables themselves.

***CHIRP* Comment:** The regulations for EFBs, EASA AMC 20-25, have not kept pace with the development of EFBs or the introduction of iPads as EFBs. Although some operators permit flight crew to use their iPads for personal work, the devices are issued for professional purposes i.e. preparing for flights and use in flight. Leads (and chargers) are required to support the work function and should be replaced by the operator. EFB approval is approval of the package: EFB, lead and charger. Replacement parts are required to have identical characteristics to the originals. In an example of good practice, an operator has conducted its own research and discovered that some non-proprietary leads are significantly inferior to original equipment. In consequence, that operator provides replacements for worn or damaged leads and has placed a lead, shrink-wrapped for protection, in every cockpit in its fleet.

And finally, if anyone needed any further persuasion about the potential hazards of worn leads, an incident on 10 December 2017 reported in the Aviation Herald should be sufficient. A Boeing 737-800 was en route at FL360 when the crew observed smoke and strong odour from the right hand side of the cockpit. In response the First Officer disconnected his iPad from the USB charger, the crew also pulled the related fuses to stop any further combustion. After ensuring that the smoke and odour had stopped, the crew continued the flight continuously monitoring the situation to a safe landing. The USB power cable had created an

electrical short circuit due to wear of the cable. The lesson identified: anyone using a tablet in the cockpit, or anywhere else for that matter, should ensure the lead and connectors are in good condition and when necessary replace them with parts from the original manufacturer.

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WHO IS IN COMMAND OF THE AIRCRAFT?

Report Text: I was late for report. I contacted the company and advised my actual time arrival and also contacted the First Officer discussing fuel /wx etc. Also advised no passenger boarding until I arrived.

I do not believe I can comply with Company safety and security requirements if passenger boarding occurs in advance of my arrival. I am also concerned about legal responsibility for the aircraft and its occupants should a ground incident such a fire etc. occur in the absence of the Commander.

During the period before I arrived the First Officer was told by our line manager to, "Get their Captain's hat on" and commence boarding (at direct odds with my instructions, arguably an incitement to commit gross misconduct by failing to obey the lawful commands of the aircraft commander).

When I arrived at the aircraft I was surprised to note that passenger boarding had been completed at direct odds with my specific instructions, giving me a CRM challenge with the First Officer and unable to comply with several sections of the Operations manual around security procedures, notably the requirement that a cabin search take place before boarding and that the SCCM advises the Commander of same BEFORE boarding commences.

On reviewing this event I would like to clarify two questions:

1. In the absence of the qualified, designated legal Commander of the flight, who is legally responsible for the aircraft and its occupants until such times as the commander arrives at the aircraft?

2. Assuming the answer to Q1 is the First Officer, at what point does the designated Commander assume responsibility for the aircraft and its occupants? (e.g. if there were an aircraft fire just as the Commander were approaching the aircraft, would he/she be responsible for getting on-board and dealing with the issue?

***CHIRP* Comment:** The situation described by the reporter is not new; some operators used to permit boarding without any of the flight crew present. Under EASA regulations the commander does not assume responsibility for an aircraft's safety until he/she boards. It follows that it is the First Officer who is the acting Commander until the designated Commander boards and assumes command. It would be sensible for operators to make specific provision for situations such as these in their Ops Manuals; SOPS taking into account the CRM aspects and potential range of First Officer experience would provide guidance and reassurance for Captains and First Officers alike. However, flight crew (and cabin crew) carrying out their duties conscientiously and to the best of their abilities should not fear legal action, as the article below by Edward Spencer of Holman Fenwick Willan on vicarious liability makes clear.

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VICARIOUS LIABILITY – ACCOUNTABILITY FOR THE ACTIONS OF OTHERS

Potentially catastrophic liability for the negligent conduct of employees is a fact of life for employers, and few more so than air carriers. In circumstances where members of the crew commit a negligent act or omission which causes loss, carriers will need to be aware of their exposure by way of vicarious liability.

Vicarious liability is a common law principle of strict, no-fault liability for wrongs committed by another person, normally an employee. It is an indirect liability in that it does not involve the attribution of guilt for an employee's negligent act or omission to his employer, but rather the imposition of liability for the employee's negligence on the employer as a matter of public policy. Allowing claimants in negligence to bring a claim against an employer in addition to its employee makes sense from a public policy perspective, because an employer will generally be in a better financial position than its employees and so will be more able to meet the cost of claims.

Whether vicarious liability arises involves a two-stage test, both of which must be satisfied:

1. **Is the relationship between the wrongdoer and the person alleged to be liable a relationship that is capable of giving rise to vicarious liability?** The most common such relationship is an employer-employee

relationship, such as the relationship between crew and the air carrier by which they are employed. In such an employer-employee relationship, there is a presumption that the first test is satisfied.

2. **Is the connection between the wrongful act or omission and the employment sufficient to justify holding the employer liable?** This will be the case where a carrier has been entrusted with the safekeeping of passengers, and the employee's act or omission causes those passengers harm by negligently carrying out his duties.

Is there a defence?

Due to the strict liability nature of vicarious liability, it is no defence for a carrier to show that its employee has acted in a way that was prohibited by the contract of employment. Where the negligent act or omission is broadly carried out in the course of employment, such as a Commander failing to ensure the carrying out of a cabin search before authorising boarding, this will be sufficient to engage the employer's liability. In order for an employer to avoid liability for an employee's negligent act, the act would have to be sufficiently outside the scope of the employment. This has been described in English case law as an employee being "on a frolic of his own".

Not all scenarios involve vicarious liability

In the event of an accident caused by an employee's negligence, a passenger would have a number of claims, not all of which would involve vicarious liability.

As a matter of international law, where the Montreal or Warsaw Conventions apply, they do so to the exclusion of other types of claims against a carrier, including any claim in negligence which a claimant passenger might otherwise have. This matters little to the claimant, who will instead benefit from a strict liability regime under the Conventions in which he need only demonstrate that an accident occurred in the course of carriage by air which caused him injury. Once this is established, he will be able to claim up to the cap contained in the Conventions, and even beyond this if the carrier fails to prove that it was not negligent. In a claim under the Conventions, the principle of vicarious liability is bypassed entirely, as the right of action is already directly against the carrier.

Where the Convention is not applicable, which is often the case in with domestic travel, or where the flight is a private or non-ticketed flight, then the passenger's recourse would be in negligence. It is in this scenario in which vicarious liability will need to be established in order to make a claim against the carrier.

There is a third and rarer option, again in which the claim is not covered by the Conventions. A claimant could make a claim directly against a crew member where the crew member is covered by the carrier's insurance. This option is only a desirable alternative to a claim against the carrier by way of vicarious liability where there is a jurisdictional advantage to bringing the claim in the pilot's jurisdiction rather than in the carrier's. This would be the case where the jurisdiction in which the pilot is resident has a more generous regime for the awarding of damages. One example of this was the case of Dana Air Flight 992, in which the families of the victims of that crash brought a claim in Florida against the estate of American Captain Peter Waxtan instead of against air carrier Dana Air in its home jurisdiction of Nigeria.

Vicarious liability is not, therefore, always relevant to a passenger's claim against a carrier arising out of the negligence of its employees. Its relevance will be determined by the circumstances of each case, particularly with regards to the applicability of the Conventions and any jurisdictional considerations there may be.

Can a carrier claim a contribution from a negligent employee?

Vicarious liability does not replace the liability of the negligent employee. As such, where a carrier suffers a loss as a result of being vicariously liable for an employee's negligent acts or omissions, the carrier may bring a claim against the employee to recover that loss.

A negligent act or omission committed in the course of employment would normally be a breach of an employee's employment contract, so the first port of call for a carrier would be to consider a claim for damages for breach of contract.

Where this is not possible, a claim may be brought under the Civil Liability (Contribution) Act 1978, enabling the carrier to recover the amount that is, in the words of the Act, "just and equitable having regard to the extent of that person's responsibility for the damage in question".

Conclusion

The concept of vicarious liability is informed by the principle that those who carry on a business should bear the loss caused by the risks associated with the business, including the risk of an employee acting negligently. A better understanding of the link between an employee's conduct and an air carrier's exposure to the risk it can present should facilitate a greater dialogue about how to continue improving safety and training in the aviation industry.

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General Aviation Pilot Training Issues

The following brief was prepared by the CHIRP General Aviation (GA) Advisory Board. It is published here for interest and to inform professional pilot instructors who receive Air Transport FEEDBACK.

CHIRP reports routinely reveal weaknesses in GA pilot performance and training. With the exception of the section about Partial Engine Failures, all of the issues below were reported to CHIRP in 2017 and many of them are reported repeatedly - recurring themes. While some of the themes reflect pilot inexperience, others reflect gaps in knowledge that could and should be covered in ground-school.

- Poor flight planning with lack of contingency options for weather and/or airspace. We also see examples of pilots not reading/assimilating NOTAM information.
- A lack of understanding about human factors. This includes physiological (e.g. lack of awareness about the effect of alcohol and low blood sugar) and psychological (e.g. stress, distractions and expectation bias). Pilots seem unaware of the IMSAFE mnemonic (Illness, Medication, Stress, Alcohol, Fatigue, Eating) for assessing their fitness to fly.
- Incidents while joining and flying in visual circuits regularly feature in CHIRP reports. In the circuit some pilots appear to have little awareness of what is going on around them. There is also an unwillingness to go around from unsafe approaches.
- Contributing to the problems in the visual circuit, but also evident en route, use of the RT is poor. Pilots do not listen out to build up their Situational Awareness (SA); incorrect phraseology is common and clearances are not read back in full.
- Many pilots appear not to understand the provisions and differences between a Basic Service and a Traffic Service. They also do not understand the differences or distinguish between an airfield Flight Information Service and an Air Ground Service. This latter issue is compounded by some A/G Operators exceeding the terms of their Certificate of Competence.
- Many GA pilots fly with GPS, iPads and other technology that diverts their attention from lookout into the cockpit. En route they are not good at managing their time between the electronic aids, speaking to ATC, and basic navigation.
- Fuel awareness seems poor. Pilots do not dip their fuel tanks and rely on inaccurate gauges. Several reports concern pilots running out of fuel completely. Perhaps pilots learn to fly on aircraft types where the gauge can be relied upon before switching to types where the gauge is a guide only.
- Pilots failing to fly defensively in terms of routing over suitable areas for forced landings and in terms of being unwilling to give way to other aircraft when they perceive they have priority.
- Pilots are not taught how to look for hazards in the overshoot when they are selecting suitable fields for PFLs.

A recent report about a Flying Instructor (Restricted) supervising solo students highlighted a lack of information about the nature of supervision for restricted instructors. A restricted instructor may only exercise the privileges of his/her instructor certificate under the supervision of a fully qualified instructor nominated for that purpose. However there is no formal definition of the level or means by which the supervising instructor provides that supervision.

We periodically receive reports about solo students being sent on qualifying cross-country flights with barely sufficient time before destination airfields close or, in winter, daylight fades into twilight. .

On the positive side, many pilots write to CHIRP about errors or misjudgements they have made with a genuine desire to help others avoid similar problems.

Partial Engine Failures on Climb-Out.

Sadly 'turn back' accidents following attempts to regain the airfield continue to haunt us, despite it being a feature of flying since the start of the last Century. It's the oldest killer in the book.

Events last year tragically saw at least four such accidents culminating in death or life-changing injuries. Largely as a result of partial engine failures.

It is noted that a ten-year survey of accidents in Australia showed there were nine fatalities with partial engine failures and none with total engine failures. An analysis of the certainty of accident against remaining power output has indicated that if a pilot had between 25% and 75% power, the likelihood of a fatal accident was high. Pilots were tempted to turn back or have a go at a low level circuit and ended up stalling/spinning at low level, which is invariably fatal.

While instructors regularly teach 'fan stop' exercises, there is little or no emphasis on dealing with a partial or progressive loss of power. It is often harder to detect and can leave a pilot with too many decisions to make. Perhaps greater awareness by the instructor community to this insidious killer may mean we can reduce the casualty rate in the coming year.

The AAIB Annual Safety Review for 2017 contains a general aviation fatal accident review looking at causal trends and has links to further research papers, regulatory advice and other useful sources of information for the private aviator. The Review includes information on the AAIB's activity during 2017 and an overview of the 29 Safety Recommendations and Safety Actions published and 220 correspondence investigation reports during the year. It also contains statistical information on the accident causal factors established by AAIB investigations across the aviation industry. There is also an article on human factors in accident investigation and how the AAIB is developing its capability in this important field.

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Accident and Serious Incident Investigations – Timely Reporting to the AAIB

On 21 July 2017 at 1539 hrs, a B737 took off with a thrust setting which was significantly below that required for the conditions of the day. Preliminary evidence indicated that, after the aircraft lifted off from the runway, one of the aircraft tyres struck a runway approach light, which was 35 cm high and 29 m beyond the end of the runway. The event was reported by air traffic control personnel at the departure airfield who filed an MOR and sent a signal using the AFTN. The AAIB has access to this system but only monitors it during working hours because it maintains a 24-hour reporting line as the primary means for reporting accidents and serious incidents: from within the UK 01252 512299 or, from outside the UK, +44 1252 512299. The fact that the AAIB became aware of this event only through the AFTN signal delayed its response by 58 hours and meant that some sources of recorded data from the aircraft were unavailable. This has been detrimental to the investigation and may hinder the identification of all the safety issues.

The AAIB Special Bulletin about this incident highlights reporting obligations within the UK for accidents and serious incidents. Regulation (EU) 996/2010, Article 9, Obligation to notify accidents and serious incidents is directly applicable in the UK. It states:

> 'Any person involved who has knowledge of the occurrence of an accident or serious incident shall notify without delay the competent safety investigation authority of the State of Occurrence thereof.'

The Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 1996 states that, should an accident or serious incident occur:

> ' the relevant person and, in the case of an accident or a serious incident occurring on or adjacent to an aerodrome, the aerodrome authority shall forthwith give notice thereof to the Chief Inspector by the quickest means of communication available…'

It goes on to define relevant person to mean:

'in the case of an accident or serious incident occurring in or over the United Kingdom or occurring elsewhere to an aircraft registered in the United Kingdom, the commander of the aircraft involved at the time of the accident or serious incident.'

Civil Aviation Publication (CAP) 493, The Manual of Air Traffic Services (MATS) Part 1, contains in Section 6, Chapter 3 information on how Air Navigation Service Providers should meet their obligations to report accidents and serious incidents. Following an accident or serious incident at an aerodrome, the senior controller is required to telephone the Area Control Centre (ACC) Watch Manager and, subsequently, submit an MOR. On receiving a report of an accident or serious incident, the Operational Supervisor at an ACC is required to telephone the AAIB.

Further guidance on the AAIB website lists the people who must notify the AAIB without delay if they have knowledge of an aircraft accident or serious incident which occurred in the UK, a UK Overseas Territory or a Crown Dependency. These include the crew, and the owner and operator of the aircraft. In circumstances where there is doubt about whether or not an incident should be classified as serious, and therefore reported, the AAIB recommends that it is reported.

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