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ON COMMERCIAL AVIATION SAFETY

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FOCUS is a quarterly subscription journal devoted to the promotion of best practises in aviation safety. It includes articles, either original or reprinted from other sources, related to safety issues throughout all areas of air transport operations. Besides providing information on safety related matters, **FOCUS** aims to promote debate and improve networking within the industry. It must be emphasised that **FOCUS** is not intended as a substitute for regulatory information or company publications and procedures.

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Front Cover Picture: Two Army Air Corps Apache AH1 attack helicopters, fitted with CRV7 rocket launchers and rails for Hellfire missiles. Photo copyright: MOD

focus ON COMMERCIAL AVIATION SAFETY

Communication – does everybody get the message?

by Dai Whittingham, Chief Executive UKFSC

Communication is central to everything we do, whether as individuals or as organisations. It is not possible to operate a complex aircraft safely without regularly communicating with others, the importance of this being underlined by the emphasis rightly placed on crew resource management. You can't manage a business without communicating, either. And it need not necessarily be verbal communication being used; there are any number of gestures or expressions that very accurately convey meaning or intent, with the possible exception of those used by confused marshallers. Even without the power of speech, new-born babies manage to express outrage or contentment - it usually seems to be one of the two extremes! But communication also opens up the possibility of miscommunication and hence of misunderstandings or failure to share the same mental model in any given situation, callsign confusion being a classic example.

There are occasional moments when some 'constructive ambiguity' in communication can be helpful, where latitude in interpretation allows all parties to accept a position without loss of face or dignity even if it doesn't exactly meet their requirements. That is why joint communiques from political summits can take days to craft to everyone's satisfaction. There may even be times when ambiguity is very deliberate. For example, a teacher's report stating: "I hope little Jonny gets the exam results he deserves" might be read by his doting parents as meaning that their darling boy deserved top grades, whereas the teacher's real meaning could be that little Jonny deserved nothing other than to fall flat on his lazy face.

On the other hand, there are communications that are clearly ambiguous but unintentionally so. And if a phrase can be interpreted with 2 different meanings, then it will be, normally to the detriment of the operation. The bottom line here is that there are times when very precise language is needed if a very precise outcome or interpretation is intended by the writer. This is especially true where rules and regulations are concerned. The regulators have recently been keen to avoid being over-prescriptive, and rightly so, but there are some rules that perhaps allow too much latitude, FTLs being a case in point. If you are writing SOPs, ops manuals or the like, you need to ensure that what you write is what you mean and that you have used the appropriate words in the appropriate sense.

'Shall' is used as an imperative in much of the regulatory environment. There is no option but compliance when an EASA regulation states: "Operators shall...". But we must also remember that for many of the regulated community, English is not their first language. It is therefore important that whoever is writing the regulation or operating instruction accurately captures the intent behind the rule, so that mis-interpretations can be corrected by placing them in the right context.

Communication must also be tailored to its target audience. An approach to a difficult runway where (eg) crosswinds and windshear are a regular feature should have prompted a threat and error management communication between the pilots, briefing on handling of windshear warnings etc., whereas an informative PA to the passengers on the same subject might merely mention that it was likely to be a bumpy approach.

It is also worth recalling that one's position in an organisation is likely to affect both content and target audience for any given topic for communication. Drawing a parallel with the military categorisation of strategic, operational and tactical levels of warfare, you can expect a CEO or COO to be concerned with the strategic direction of the business and that their communications will be crafted accordingly. Similarly, the Director of Flight Operations is managing operational output; his or her risks tend to be operational rather than purely safety-related and, while they may have the same target audience, communications will be aimed at preserving operational output. The bulk of safety office communications will of course be safety-related and primarily focused at a tactical level. But as we have seen in other environments, small tactical actions can have strategic consequences. Even seemingly innocuous remarks to the wrong audience can bring disaster – as an example, look no further than Gerald Ratner's infamous 1991 comment about the quality of some of his company's jewellery, which cost him his job and almost led to the collapse of the company.

If safety offices cannot communicate adequately with management at all levels, serious safety issues may fail to be given the right prominence and hence attract the necessary attention and remedial action. The implication here is that at both strategic and operational levels, managers may be working with an incomplete risk picture. The reverse is also true: strategic and operational pressures, especially the latter, need to be well understood by those working in safety. It is not a one-way street. The various safety boards or panels within company SMS are a primary means of sharing a risk picture, but they can often function as a mechanism for pushing information up the chain rather than facilitating a two-way flow. Where communication fails, you have a lack of alignment.

Alignment is a key concept when multiple stakeholders are involved. You do not need to have precise alignment, you just need to have most people pointing in roughly the same direction to achieve a unity of purpose that can be very powerful. It also means that outliers and blockers will be swept along with the main effort to the point where they either start swimming in the same direction as everyone else or they get out of the way. Collaborative projects rely on alignment, but that is not to say that everyone must share identical viewpoints. It is enough that they share a common goal; in fact, it is useful to have some dissent and friction within a project because they provide an element of challenge that can be very constructive.

One collaborative project came to fruition on 10 May 2018, when the Laser Misuse (Vehicles) Act received Royal Assent. We had multiple stakeholders including DfT, the CAA, BALPA, Virgin, BA, EasyJet, NPAS, Metropolitan Police, Cheshire Police, Sussex Police, the MAA, RAF, QinetiQ, dstl, Home Office, BEIS, Public Health England, the Honourable Company of Air Pilots, 2 consultant ophthalmologists and the Crown Prosecution Service. All had slightly different ideas as to what the answer to laser attacks was, what the problems were, and what might be possible.

There were widespread misunderstandings about the workings of Government and what would be required to achieve the change we were looking for. All agreed that tackling the problem of laser attacks against aircraft would need a change in the law and that if we managed to achieve this, there would still be a problem with policing the crime. One of the earliest disagreements was over the potential for laser injury to pilots, a long held and deeply enshrined principle in the earlier industry work on lasers and in various position papers. Eventually we had to accept the scientific opinion that injury was unlikely with commonly available laser pointers, but it was a hard pill for many of us to swallow. Once swallowed, though, it allowed us to concentrate efforts on distract or dazzle and recognise its implications for all modes of transport. This in turn led to the multi-modal approach that proved so successful in the end.

The realities of working with Government came in the form of a very patient civil servant's explanation of the legislative process and the need for an evidence-based approach. We knew anecdotally that attacks were occurring against trains, vehicles and even the Isle of Wight ferry, but there were no formal reports. We needed evidence.

BALPA and HCAP conducted a very useful survey of their members to find out how many had suffered a laser attack and how many had reported them; the results were interesting. Over half the pilots reported having been attacked in the UK or abroad in the previous 2 years, but 30-35% of these attacks had not been reported through formal channels. The communication had not worked – reports were not seen as being worthwhile because nothing appeared to be happening as a result. However, we were able to use the evidence of 35% under-reporting in the UK to estimate the likely scale of UK attacks (~2000/year) against UK operators; with 50% of UK commercial traffic being foreign, attacks on these aircraft would be reported to their NAA and not to the UK, leaving us with a potential 4000 attacks/year. That gained some attention.

Hard evidence for road and rail attacks was harder to come by, but we were able to convince officials and then Ministers that the lack of evidence was due to the absence of a reporting system – in this case, absence of evidence was definitely not evidence of absence, and the scale of the problem could be adduced from the aviation context. From there, we agreed to focus efforts on the single change to the law that would criminalise all laser attacks on transport. Throughout, communication has been key in the work to promote understanding of the issues and the priorities for tackling them. The work is not yet complete as there are plenty of follow-up actions needed to stop high-power devices coming into the country, educate young people on the dangers posed by lasers, and give our police colleagues the powers they need to deal most effectively with offenders. But what the whole laser legislative journey has shown is that if you collaborate properly, align and communicate well, genuine progress is possible.

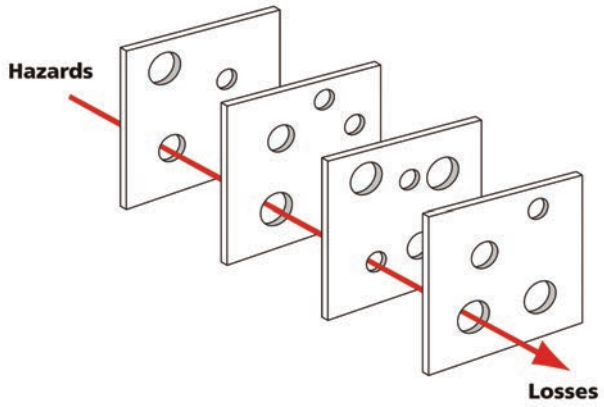
focus ON COMMERCIAL AVIATION SAFETY

Taking a look at what the risks really are?

by Jacky Mills, Chairman UKFSC

Safety professionals often cite 'non adherence to SOP' as a causal factor to a safety event which is under investigation. Standard Operating Procedures are in place to set out the guidelines for safe operation of the aircraft but, if circumstances require it, can be stepped outside of at the discretion of the Commander. Our professional aviators will normally only use this 'exception' if there is a good reason to do so, and if they feel that they can justify such a behaviour.

We are also well used to hearing the famous phrase 'the holes in the Swiss cheese lined up' to refer to a more serious event, an accident or incident, when several factors (weaknesses in the system) all came together. In such circumstances several factors all linked together and the series of safety barriers were all eroded causing an undesirable outcome.



On another day – when the holes did not line up – the ill-advised deviation from procedure would not have any adverse effects or would be 'got away with'. This is the crux of why safety is greatly enhanced by the reporting of 'near miss' events. When one barrier has been eroded but without an undesirable outcome one of the vital safety barriers has gone; honest reporting of this enables the safety professionals to look at this pre-cursor event and to examine why one barrier was eroded and look for ways of making that barrier more robust.

This in a nutshell explains why the Just Culture is so important to our Safety Management Systems; if the flight crew, and importantly all the other employees, feel confident in reporting their 'errors' without fear of retribution, then the barriers can constantly be strengthened. This absolutely makes sense and sounds simple enough doesn't it? Win-win!

So why do we still see events where all the holes have lined up with that undesirable outcome?

It certainly seems to make sense to praise the submission of safety reports. Each and every report tells the Operator where things have not gone quite as well as they would have liked and gives great clues where they should be looking to bolster defences. The reporter should be given timely and comprehensive feedback, wherever possible, of the findings of the subsequent investigation as well as any resulting preventative actions; this will both educate and encourage future reporting.

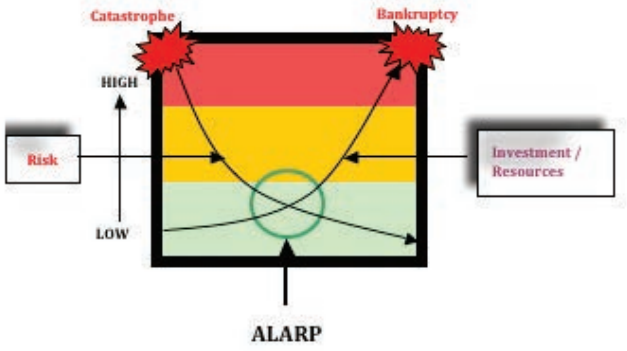
Human behaviour dictates that many people do not really like owning up to when they have got it wrong so it is important to make this both easy and 'comfortable to swallow'. This same behaviour also dictates that most humans will carry on doing something that is 'not quite sitting right' rather than raise their head above the parapet and flag this up. In the course of many, perhaps most, investigations, factors arise that have been 'undesirable' for some time, but whilst the human 'gets away with it' they will continue down that road.

Fatigue is one such example. The rules have, for as long as I can remember, stated that crew should not act as operating crew if they feel fatigued. Until the introduction of the mandated Fatigue Reporting system as part of EASA Flight Time Limitations crew members removing themselves from a planned duty as they felt fatigued was almost unheard of. It may have happened in some cases but it would be packaged in a different way, most likely reported as Sick.

Now that Fatigue reporting is not only acceptable but encouraged, crew feel able to stand down from a duty if they assess they are not sufficiently well rested to undertake the duty. They also feel comfortable to highlight if a planned duty is likely to be fatiguing to them, for instance, swapping from late duties to an early duty without sufficient time for the human to adapt their sleeping pattern. This is a great example of progress in acceptable behaviours in aviation, and what a better world we operate in these days.

The introduction and development of the Pilot Support Programme is another example of positive progress. Both of these initiatives have one thing in common I can hear you saying; it took one or even several negative events to encourage legislation to be introduced.

Safety Management Systems capture and highlight the negative events and are every Operators opportunity to introduce more robust barriers whenever possible. No Operator needs legislation to introduce another barrier into their safety system. However, every Operator does need financial acumen to continue operating, which is why the term ALARP (as low as reasonably practical) is often cited in relation to risk – to take it to the 'nth' degree the safest way to run an Airline is never to take off!



So all additional safety nets need to be cost effective to make them feasible; that is the juggling act that Operators have to get right. It is known as the Safety Space; Operators have to make sure there is sufficient emphasis on safety in a cost effective way. But how do they know what area to invest in?

What are your risks and what are you doing to address them sounds simple – but the key to this is REALLY knowing what your risks are. But we have our statistics and they tell us what the risks are don't they? Well yes and no. They tell us about the risks which have been reported – or that data has tracked – but this obviously leaves the ones that haven't been reported. Tell us about those and what are you going to do about them!

I would suggest that many safety investigations uncover a 'systemic' issue that has always been 'acceptable behaviour'. It could be found that it continues to be acceptable or it could be a wake-up call that it would be very wise to address. That is the job of the investigator, to uncover these elements and to make recommendations that this behaviour should be looked at with a fresh pair of eyes. Is it safe to continue with this behaviour? It may be that that risk has already been reviewed and considered ALARP. But, it may be that the practice is 'acceptable behaviour' because 'it has always been done like that and has never caused an issue before'....

Surely every flight should start off the day with everything in its favour with the briefed threats list being as short as possible, and confined to elements such as adverse, but within acceptable limits weather, and a challenging but acceptable approach profile. This is the reason for the MEL of course, it is carefully considered in the cold light of day which systems can safely be compromised and to what extent. It is quite common place that Operators will voluntarily add more punitive aspects to their MEL, for instance, dispatch without serviceable TCAS may be acceptable if operating totally within controlled airspace but not at all outside of it.

All this is worth bearing in mind when looking at an event that happened in June 2015 when an aircraft landed long on a wet runway in Canada, misjudged the delayed deceleration following an instruction to clear the runway at its far end and subsequently were unable to avoid an overrun.

The avoidance of a runway excursion is the very reason that compliance with the stability criteria is so important as is the importance of landing in the Touchdown Zone. Subsequent deceleration to normal taxi speed and maintaining this to the intended runway exit is also a universally preferable strategy.

The flight crew had many thousands of hours on the type flown – more than 20,000 between them - the stabilised approach criteria had been met but the target speed had been incorrectly calculated and the aircraft crossed the runway threshold 15 kts faster than recommended. Crew failed to react to the tailwind component given in the final wind check and flare slightly high – combined effect caused touch down beyond the TDZ. The investigation concluded that the crew were likely unaware of how far beyond the TDZ the aircraft was when it touched down – speedbrakes were armed and deployed on touchdown but were stowed manually ten seconds later, which disarmed the autobrakes. This action is permitted by their Company Operations Manual when the aircraft has decelerated below 80 kts and stopping distance within the remaining runway is assured.

Manual braking began nine seconds later with a speed of 92 kts and just over 1,000 metres of runway remaining, followed by maximum brake pressure and maximum reverse thrust with just under 700 metres remaining.

Autobrakes were set to Level 1, activated on touchdown and automatically ceased at 103 kts when speedbrakes were stowed. The manual brake pressure initially applied was similar to that applied by the autobrake system but the deceleration was only 50% of that previously achieved – attributable to the absence of speedbrake deployment.

Thrust Reversers were set to reverse idle nearly 3 seconds after touchdown and remained in this position for the following 25 seconds – only reselected to full reverse at 83 kts; spool up from idle took 10 seconds by which time there was less than 170 metres of runway remaining.

An overrun was anticipated and the aircraft steered to the right of the runway centreline to avoid the runway end lights and approach lighting system for the opposite runway. At a speed of 39 kts the aircraft departed the paved surface of the runway and continued 60 metres into the grass and came to a stop to the right of the extended centreline.

None of the occupants were injured and a mobile staircase was used to get everyone safely off the aircraft and taken by bus to the terminal building.

So the Company stabilisation criteria had been met, but with the incorrectly calculated target speed, the aircraft had crossed the runway threshold 15 kts faster than recommended. This was aggravated by the failure of the crew to react to the tailwind component, along with a slightly high flare culminated in a touch down beyond the TDZ. The Company normal procedures required that a go-around should be flown if a landing cannot be made within the TDZ although it was noted that no guidance was provided on how to determine this prior to touchdown nor was there reported to be external visual reference to indicate whether the touchdown was beyond the TDZ.

It was also noted that the runway did not have centreline lighting changing from white to alternating white/red and to all red as the aircraft became closer to the end of the runway.

There was no evidence to suggest that standing water had introduced a risk of dynamic hydroplaning/aquaplaning but lack of deceleration once maximum manual braking was applied near the end of the runway suggests that viscous hydroplaning/aquaplaning may have occurred at that point.

Meteorological data indicates that at the time of the overrun the rainfall would be described as 'heavy'. However, the investigation concluded that this would not automatically prompt a crew to anticipate poor braking in the absence of standing water reports; a wet runway with adequately draining surface is expected to provide good braking action. This explains the crew's plan to use autobrake setting 1 and thrust reversers used to provide minimal deceleration consistent with extant guidance.

However, following investigations into a number of runway overrun events in the USA, the FAA had warned Operators that a more conservative approach should be used when making landing distance assessments in situations where moderate or heavy precipitation is occurring on non-grooved or non-porous friction course runways, as in this case. The FAA had suggested that crews should be prompted to anticipate less than good braking conditions on wet runways in such conditions.

The investigation also concluded that flight data monitoring conducted by the Operator suggested that non-standard use of deceleration devices is more prevalent on runways where aircraft are instructed to exit at the end of the runway, suggesting that in these cases pilots may be inclined to maintain speed and decelerate at the end of the runway. This practice inevitably increased the risk that the landing would result in a runway overrun.

So this accident seems to have had several systemic 'holes' lined up – lack of guidance to anticipate less than good braking conditions on wet runways – lack of procedure to identify a point at which the go-around should be initiated if the aircraft has not touched down – no clear clues to indicate how far from the end of the runway the aircraft was. The flight crew then added another large hole by stepping outside of the SOP in limiting the use of their deceleration devices to expedite exiting at the end of the runway. Add to this the error in speed calculation and that there also seemed to be an element of complacency and lack of situational awareness as the pilot judged there to be sufficient runway remaining when the spoilers were retracted.

So were they aware of what their risks were on that day? Sadly, it seems not, sadly a fully serviceable aircraft with a fit and experienced crew ended up in an unfortunate and undesirable state. Worth thinking again about what the risks really are maybe....

'Dæmons are forever'.... Thoughts concerning how leadership principles may in fact be strangling organisational development

by Nicholas Harrison

Whenever I scroll through the updates on Linked In, I think to myself that one day I will be surprised. On that day, there will be no discussion about 'leadership'. Every aspect of this omnipresent digital subject is daily being addressed. One week, a couple of years ago now, I remember that on Monday leadership was most definitely innate, you were born a leader. By Wednesday, my home page was filled with how leaders were made not born and by Friday someone had written that asking whether leaders were born or made was the wrong question to ask! Tell me confidentially, just between us, are you as confused as I am?

The only time I thought I had stumbled across real clarity on the subject was when one of the more imaginative and enjoyable comments on leadership said something along the lines of "Leadership? It's about not being a d*ck".

As a youngster, I always thought it was about being out in front. I thought a leader was the person who inspired others to act. The leaders I read about as a child were people like Scott who realised his men could go no further and badly needed rest, but he also knew that to sit for any length of time meant certain death. He told the team that they could sleep and staying awake himself, after only a minute he woke them again and told them they had had an hour's sleep. Then, in later life, I read about all the mistakes and poor decisions that had been made, especially at the planning stages of the last expedition and another leaf in my childhood garden, crumbled and crimson, fell to the ground. Arguably the same could be said of Churchill. His involvement in Gallipoli and Norway show a side to the man that distinctly lacked good leadership, but, as a school boy, sketching Spitfires in a Latin text book, I only knew that the man in the pin-stripe suit, carrying the Tommy Gun had won the war.

But I suppose, that's the thing about leadership. There is an assumption that whenever we talk about it, the word, 'good', seems to slip into the same sentence, really without our knowing. General Patton said, "Lead me, follow me, or get the hell out of my way". I think to be a leader is often just as much about making a decision when no one else wants to as it is about making the right one. Sometimes you make the wrong choice, but we don't live in a sort of 'Sliding Doors' world where the relationship between choices and results can be assessed in a parallel universe, so perhaps sadly leadership appears to be inextricably linked to achievement, to results. In most cases, when discussing an episode that required robust leadership, our reflections tend to focus on the outcome rather than all of the mini episodes that made up the situation in its entirety.

Now I see a different reality. Leadership is no more solely about inspiring or motivating as it is about galvanising teams, being empathetic or whipping people into action. It's actually got a lot to do with context, environments, self-awareness and the collective strands to the whole situation. It's about being the right person in the right environment, for the very same talent demonstrated by Churchill, stubbornness, was key to his successes and failures in equal measure. He refused to back down in the Dardanelles, being described as 'Pig-headed', whose can-do attitude led him to close his ears to many suggestions from others, especially the Head of the Navy. The result was a disaster. But that very same stubbornness, coupled with his self-belief, knowledge of history, and ability to understand the limitations of Nazi Germany, allowed him, when aligned to his remarkable way of speaking, ability to transcend boundaries of class and nation, and progressive sense of personal branding, to lead Britain to ultimate success, against the odds. Imagine however what we would be saying about his leadership had we lost, if indeed war can be reduced to a simple case of winners and losers.

The need to acknowledge context can again be appreciated when reading, or hearing, one of the many quotations about leadership. Napoleon said, "A leader is a dealer in hope". Rudyard Kipling's poem, 'If', is often quoted within lessons on leadership expressing the need to keep our heads when all around us are looking theirs. Please don't worry, I am not going to expand this piece further with endless examples. I love this poem and I like quotations such as Napoleon's. However, without context we do not know why Napoleon said what he said or what was happening at that time. If we did, then I am sure the line's relevance to a specific situation would allow us to see that without a point of reference these words create little more than interest or poetic admiration to today's leaders. We cannot allow for a situation where leadership principles are dictated without first understanding the situation. There are many organisations, and indeed situations, that require leadership but neither in the face of adversity nor indeed in any stressful circumstance. For them, the lines, "If you can keep your head when all about you are losing theirs and blaming it on you", are irrelevant, however beautiful, however emotional.

Sense can only be achieved through an appreciation of context and environments. With these three in place Kipling's lines will absolutely resonate to Wimbledon tennis players, even if they have never heard of Leander Starr Jameson.

I fear that in our quest to define it at its best, leadership today is being suffocated by conformity. The seemingly endless stream of discussion on the subject channels generally in the same direction, much of the time towards telling us how to be good leaders. Perhaps it happens because of our need to box things in to easily recognisable and familiar packaging or maybe the age of litigation has forced us to hide behind that which is accepted as normal within the mainstream. There definitely exists a fear to engage in ideas that have not come from well-known and established stables as indeed there is apathy to engage with people who don't possess the well-known qualifications or who have learned their subject from any bohemian route such as, experience. Whatever the reason why, I suggest we have developed a taste for uniformity where to be a good leader you should behave in a particular way, adhere to set criteria of values, establish a tried and tested environment and strive to achieve, bringing your team with you. The age of the 'Template Titan' is upon us and many a failure has its roots in doing the same old thing in the same old style. As Emmerson said: "A foolish consistency is the hobgoblin of little minds".

Have we got ourselves into a bit of a rut? We mould someone to become something, because we decide who has, and who has not got, leadership potential. We parachute a 'leader' into a situation and then we cannot understand when things continue to go wrong. A sculptor can take a lump of rock and decide to create something specific. Conversely, someone else can lie in the grass and try to find the shape that exists in the cloud. We might therefore, try looking beyond what is presented before us and try to better understand what sort of a leader we are working with. There are many different types of leader from charismatic, motivational, inspirational, stable, dynamic, process-driven, creative, goal-focused, democratic, autocratic, facilitative and transactional to name a few. Think where else you see this word, 'Lead'.... Personally, I think as a result of owning a sometimes, (often), disobedient Cocker Spaniel, I think of the leash. Sometimes I pull, sometimes she pulls me, sometimes she wraps the string around my legs and I almost fall over and sometimes she wriggles free and we don't bother using it. Before trying to understand what sort of a leader one is I think it is vital to understand what sort of a person you are. I recall reading somewhere in a Rudyard Kipling book that no man should lead anyone else until they can lead themselves. I am a firm believer in this and would suggest that leadership of others can only follow 'leadership of the self'.

Good leadership, i.e. appropriate leadership to a specific situation, is not a lockstep right. It is a truly meritocratically given phenomenon. If we accept this, then it follows that good leaders transcend age, ethnicity, disability, gender, sexual orientation and religion. In other words, leadership could well be one of the greatest examples of diversity and inclusion at work where success is truly based on an individual's abilities and not situation. Again, it is vital that aspiring leaders, as well as those already in leadership roles, are markedly more self-aware than others.

Often, the true test of a leader is at a time of increased stress and negativity, a time when the more one is immersed within a situation the more attached one becomes to their innate self. When we need to be effective leaders we may indeed practice the things we have been taught, but very many of us will find ourselves delving into our subconscious arsenal where we will find our natural and practised abilities and those that we feel most comfortable utilising. When we use our natural abilities, our talents, this is when we potentially see the greatest results. Those who are being led, will often say that their preferred leaders are those who are aware of their authentic selves. These leaders, of people, are the ones who convey an air of assurance to their teams when needed, for those under their command have insight into how their leader will behave, what values they hold, and what sort of an environment they wish to shape.

"Knowing others is intelligence; Knowing yourself is true wisdom. Mastering others is strength; mastering yourself is true power". Lao Tse 531 AD.

I do not, however, believe self-awareness should be the preserve of current or next generation leaders alone. Anyone, at any time, can find themselves in a situation demanding leadership and history is filled with examples where the most unlikely or the least expected person has risen to the demand for leadership. I am sure we all have our own examples where a situation has been saved by someone who for the rest of the time sits quietly off stage. Organisational structures are becoming increasingly democratic. Hierarchies are moving from the pyramid to the flat-line and as a result, inclusive leadership, where every employee

feels they have a stake in their organisation's development, will be key to progress and loyalty being achieved. History also provides evidence where leaders themselves have rocked the boat by not sticking to how it's always been done. I was speaking to an academic member of the Sandhurst directing staff, where the army trains its next generation leaders, a few months ago. I mentioned my thoughts that at the end of the day, no matter how much leadership training you give someone, often, in the darkest moments, the greatest leaders will find great comfort in the pursuit of behaviours that come naturally to them. As I was speaking to someone who worked within a military environment, I said "Look at David Stirling, or William Slim", choosing two soldiers. "Personally, I rate these as effective leaders, and these are people who tore up the rule book, people who relied upon their own talents to achieve". The Professor smiled and informed me that only last night he had given a speech where he had asked, "Where are the mavericks?". Maverick leaders exist within all sectors and industries. They are people who know who they are, they know what they value, they know why they operate, and they aren't afraid to stick to their chosen path no matter how hard the going or to challenge accepted thinking. Many of these maverick leaders have another thing in common, they didn't do so well at school. Richard Branson, Steven Spielberg, David Karp, Al Gore, Steve Jobs, and Ho Chi Minh all either left school early or only achieved mediocre results. It seems that time and again talent is a precursor to skills and in-turn success.

I asked Chris Roebuck, Visiting Professor of Transformational Leadership at Cass Business School, his thoughts. He said; "To be successful in our modern world we need to engage other people by being a person they genuinely want to work with. Never forget beauty is in the eye of the beholder not the giver. We will never understand how others see us until we truly understand ourselves. Too often we only see the part of ourselves we want to see, they see it all. Until we do the same we will never truly reach our true potential either professionally or personally".

In conclusion, I believe there are two aspects to leadership that we are failing to fully address within the more popular narratives. Firstly, we should be more willing to appreciate the irony that by herding people through predetermined leadership training and through the consumption of the many books on effective leadership, we are discouraging some aspects of leadership to flourish. I need to be clear that where an organisation believes its leadership training works perfectly that's okay but sticking to the same thing for no particular reason other than habit is not a good thing. Secondly, I strongly believe that before someone is allowed to become the leader of any other person they need to be fully in command of themselves. By this I mean that they should be clear about their own intrinsic motivation, their values, the environments that work for them, their own vision and mission in life and how they relate to other people. Jung spoke of an 'inner voice', a vocation if you like, manifested in our lives as a call to act in a predetermined manner. Each and every one of us, so the ancient Greeks believed, had to succumb to the pull of their 'dæmon' if we are to achieve true happiness. What was written on the Temple of Apollo, 'γνῶθι σεαυτόν', an instruction to learn what it is that you must become, this is what today we refer to as 'self-actualization' and, when discovered, is a most powerful force that will endure throughout a lifetime far longer than the latest trend. Knowing who you are, in what direction you're headed and how you will get there will markedly increase how authentic people perceive you to be. Your followers will find comfort and reassurance seeing your stability of purpose and above all robustly seeing you to be the right person for the right role.

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Airmanship/situational awareness during the approach phase

by Capt. Tony Wride, Past Chairman UKFSC

Some recently publicised incidents have highlighted that perhaps, with an over-reliance on automation, some basic airmanship skills may have deteriorated with a resultant risk to the safety of commercial aviation. I should stress that what I am focusing on in this article is not manual flying skills but the other skills that should be applied whether in automatic or manual flight and particularly during an approach.

In a recent incident a large commercial airliner descended to 400ft AAL 8 miles from the runway threshold at Moscow. In another incident a large aircraft ended up very low, 170ft rather than 700ft, on an approach to New York which apparently frightened the occupants of a hotel! In both of these incidents the aircraft carried out a go-around but in March 2015 an A320 at Halifax Nova Scotia impacted the ground 740ft before the runway threshold when the go-around was commenced too late to avoid ground contact.

In August 2014 there was a fatal crash when a cargo aircraft hit the ground approximately 3,300ft short of the runway threshold during a localizer non precision approach.

The two crashes and two recent incidents raise a concern about what the pilots were looking at and doing at this very critical phase of flight. To end up 2,000ft below the normal height expected during an approach, as occurred at Moscow, with a serviceable radio altimeter correctly indicating the proximity of the ground and the descent continuing is extremely worrying.

Airmanship is not often a term used nowadays and the term Situational Awareness has partially replaced airmanship when discussed in such forums as training.

From the very first flight by the Wright brothers in 1903 they soon learnt that certain things looked and felt right while other things didn't. As they developed skill and knowledge about their early flying machine they began to learn airmanship. 115 years later the same applies to all pilots and good airmanship is what keeps them alive!

First fatal airplane crash September 1908 - Lieutenant Thomas Selfridge killed and Orville Wright injured

Wikipedia has quite a good definition of airmanship;

*"**Airmanship** is skill and knowledge applied to aerial navigation, similar to seamanship in maritime navigation. Airmanship covers a broad range of desirable behaviors and abilities in an aviator. It is not simply a measure of skill or technique, but also a measure of a pilot's awareness of the aircraft, the environment in which it operates, and of his own capabilities.*

Airmanship can be defined as:

- *A sound acquaintance with the principles of flight,*
- *The ability to operate an airplane with competence and precision both on the ground and in the air, and*
- *The exercise of sound judgment that results in optimal operational safety and efficiency.*

*The three fundamental principles of expert airmanship are **skill, proficiency**, and the **discipline** to apply them in a safe and efficient manner. **Discipline is the foundation of airmanship.** The complexity of the aviation environment demands a foundation of solid airmanship, and a healthy, positive approach to combating pilot error."*

Let us look at some airmanship examples by conducting a little test related to a normal 3° approach path to a runway. The airfield elevation is 2,200ft.

1. At 10 miles from the runway approximately what indicated altitude would you expect? a) 2,600ft b) 5,200ft c) 3,700ft
2. At 8 miles from the runway approximately what indicated altitude would you expect? a) 2,600ft b) 5,200ft c) 4,600ft
3. Assuming that the terrain is flat at approximately what distance from the runway would you expect the Radio Altimeter to start indicating (2,500ft RA) a) 6 miles b) 8.3 miles c)10 miles
4. At 5 miles from the runway approximately what indicated altitude would you expect? a) 2,600ft b) 3,700ft c) 4,200ft
5. Do you brief, and crosscheck during an approach, altitudes against distance and radio heights for the terrain situation a) Yes b) No

An approach is a particularly busy period of the flight which can be challenging in adverse weather conditions and therefore discipline (as highlighted in Airmanship definition) is paramount. Standard Operating Procedures (SOPs) help maintain discipline by providing the safe procedures to follow. Sometimes not specifically mentioned in SOPs is the assumed discipline of airmanship where the pilots monitor the approach profile and know what heights to expect at certain distances from the threshold. Quite often SOPs mention an Approach Fix as a crosscheck point or a distance from the threshold when the radio altimeter indicates 1,000ft. These are 2 examples but actually the height/distance to go crosscheck is ongoing and starts many miles from the airport as an indication for energy management.

If we consider the Moscow incident then at some point the radio altimeter started indicating (2,500ft RA) and this must have been well in excess of 10 miles from the threshold. This may not be unusual if a level segment of 2,500ft AAL is part of the approach. The 1,000ft RA indication however must have occurred at about 10 miles from the threshold, approximately 6.8 miles early which is unusual!!

Additional information regarding the use of the Radio Altimeter from various sources:

Radio Altimeter Awareness

On descent, once the radio altimeter is "alive", pilots should include it in the instrument scan for the remainder of the approach, to ensure that radio-altimeter indications are not less than the standard or average minimum obstacle clearance heights.

Unless the airport features high close-in terrain, the radio-altimeter reading (i.e. height AGL) should reasonably agree with the height above airfield elevation (i.e. height AAL), obtained by subtracting the airport elevation from the altitude reading when using QNH.

The radio altimeter is not, however, an easy instrument to monitor; its indications depend on the terrain being overflown, it does not fit naturally into the instrument scan, and any monitoring procedure that depends on pilot callouts based on the radio altimeter suffers from the same potential for high error rates as for those that are based on cross checking altitudes against DME. However, "automatic" callouts based on radio altimeter indications are extremely reliable. This is the basis for using the 1000 ft RA

automatic callout as a gross error check of the aircraft's position relative to defined instrument approach segments.

Unless the airport features high close-in terrain, the 1000 ft RA auto callout should occur in the final approach segment, approximately 2-4 NM from the landing runway threshold. In preparation for any approach, pilots must determine both the source of "distance from landing runway threshold" information that will be used, and if local terrain is likely to cause an early or delayed auto-callout of 1000 ft RA.

Additional guidance from a Training Department;

Radio-altimeter indications should not be less than the following obstacle-clearance minimum heights:

- 1,000ft during arrival until past the intermediate fix (except when being radar-vectored);
- 500ft until past the final approach fix FAF (or when being radar-vectored by ATC), and;
- 200ft from the FAF to a point on final approach where the aircraft is in visual conditions and in position for a normal landing (except during Category II/III approaches).

Given all of the above what lessons can we learn and apply when carrying out an approach?

- The correct vertical profile and awareness of the aircraft's proximity to the ground is paramount.
- The approach briefing must include the threats associated with the airport such as metric heights and conversion, terrain, and expected height against distance indications.
- The Radio Altimeter becomes a useful indicator once it 'comes alive' at 2,500ft and should be monitored and crosschecked against distance. Note that on approaches with variable terrain the radio altimeter height may be lower than expected as the terrain is overflown but very rarely is less than 1,000ft until within 5 miles of the runway. Terrain and expected indications should be briefed as part of the threat management.
- The Pilot Monitoring must be actively involved in confirming the safe trajectory of the aircraft and particularly highlight any deviation from the expected vertical path to the Pilot Flying.
- If there is any doubt about the vertical profile or lower than expected radio altitude indications occur then a go-around should be performed.

Depending on aircraft type you might find it useful to have the runway as a fix and then create 5 mile and 10 mile range rings to act as a crosscheck of altitude and distance. These 5 mile and 10 mile distances can then be included in the approach briefing as expected altitudes which becomes very relevant when the airport elevation is high.

All of the above has hopefully reminded you of a few points of Airmanship you may have forgotten.

GOOD AIRMANSHIP ENHANCES FLIGHT SAFETY

Answers:

1. b) 5,200ft - 2,200 airfield elevation + 3,000 based on 300ft per mile.
2. c) 4,600ft – 2,200 plus 2,400 based on 300ft per mile.
3. b) 8.3 miles
4. b) 3,700ft
5. a) Yes - If you currently do not brief these then consider doing so to manage the threats.

How fierce competitors joined forces to make offshore helicopter operations safer

Over recent years, competition and commercialisation have become increasingly relevant to the provision of air traffic services. What effect might this have on safety? In this article, Gretchen Haskins, CEO of HeliOffshore and an aviation safety leader, explains how a fiercely competitive industry has collaborated to ensure that everyone who travels to their offshore work in a helicopter gets home safely.

Key points

1. Breakthroughs in safety performance are more likely through collaboration.
2. Focus on results in the frontline, and areas that will make the greatest difference to saving lives.
3. Shared collection and analysis of day-to-day operational activities are key factors in setting and achieving measurable safety goals.
4. Translating operational performance improvements into business benefits helps to achieve buy-in from senior stakeholders.
5. As per ICAO Annex 19, every organisation and country should have a safety performance improvement strategy. There should be a common framework for this strategy, which aids collaboration across organisations.

At face value, it might seem a tall order to get fierce commercial rivals to put their differences to one side to collaborate in pursuit of enhanced safety. Try doing that when the market in which these companies compete is going through a sustained downturn of almost existential proportions, and you might well be tempted to give up. But this is the story of how HeliOffshore came to be and how, three years on, the offshore helicopter industry is achieving tangible, life-saving results.

Back in October 2014, the chief executives of five leading helicopter operators—Babcock Mission Critical Services, Bristow Group, CHC Helicopter, Era Helicopters and PHI jointly launched

HeliOffshore. Based on an understanding not to compete on safety, they agreed to strive for shared best practices and to work towards more common standards by sharing data and pooling resources to achieve safety goals that save lives.

Today, the group has more than 100 members globally, including helicopter operators, aircraft manufacturers, equipment and services providers, as well as a growing number of oil and gas companies. From the outset, I was convinced of the potential that the group has to achieve a major step forward in offshore helicopter safety and I've been able to apply safety strategies developed during my time in the US Air Force, at the UK air traffic control company NATS and the UK Civil Aviation Authority.

Collaboration is absolutely integral to all of our work, which is focused on four key areas:

- **System Reliability & Resilience –** improving the combined human/machine interface to reduce single points of failure that can cause accidents.
- **Operational Effectiveness –** developing and implementing technology, training and procedures that make all stages of flight safer.
- **Safety Enablers –** harnessing leadership, data sharing and analysis, and safety management measures to ensure sufficient capability to enhance safety.
- **Survivability –** ensuring that flights happen in suitable conditions with adequate plans and equipment in place for passengers and crew to survive an accident.

These core sets of safety goals are developed, championed and implemented by HeliOffshore's workstreams, which consist of seasoned frontline safety leaders from across our member companies working in tandem with the organisation's small full-time staff and a select group of specialist consultants. Together, we develop best practices and guidelines and then work with member operators to get these implemented at the frontline.

Essentially, HeliOffshore (http://helioffshore.org/) has created a 'safe space' in which commercial rivals can put their differences to one side in a common pursuit of enhanced safety. We have created a clear set of safety priorities, goals and implementation timelines based on what makes accidents occur and what are the best measures to prevent these happening.

A whole-industry safety management system

Shared data and learning are critical to achieving these goals. This is why we established our HeliOffshore Space and InfoShare portals to allow companies to constructively work together through their operational experience and knowledge. In effect, we are a virtual company with a mission statement to enhance safety. What we've created – and continue to progress – is a giant safety management system for the whole offshore helicopter industry. In common with the air traffic management community, we're looking to both minimise safety risk and improve performance. In our safety performance model (http://bit.ly/HeliOffshoreSPM) we've articulated 'what good looks like' and we're trying to get the industry to achieve a safer system from that consistent framework. This model looks at the threats and creates a set of accident prevention goals based on actions that we have to be good at on a day-to-day basis to make offshore helicopter operations safer in a sustainable way. For example, if you want to avoid obstacles, you have to be good at seeing and avoiding them. If you want to avoid loss of control, you have to be good at flight path management. Once we have clearly articulated these accident prevention goals, we are better placed to examine the cost benefits of the various solutions that different organisations can offer to improve safety performance.

Our collaboration has widened to include aircraft, engines and avionics manufacturers, as well as specialist service providers across the industry. One of the beauties of our collaborative approach is that it helps to work at every level of the supply chain, tapping a collective investment and effort to get the best possible safety outcomes. This is important because design is a key factor to help improve human performance.

HeliOffshore members understand that investing in safety is crucial not only to saving lives, but also represents a sound value proposition that is repaid several times over by cost savings. We've created a collective business case for key improvements, linking costs to safety performance benefits and making the case for investing in safety both across companies, as well as within them individually.

One of the key challenges for any industry is that you can't just create a company to 'do safety' for everyone. You need people who are busy doing their frontline jobs to make safety work relevant and see that it gets implemented. Participants need to have sweat equity in the shared work rather than just writing cheques to get the safety monkey off their backs.

Ultimately, success depends on having the people for whom safe operations is a day job to lead the conversation across the industry about how to design the road map for better performance. This is how we came up with the concept for HeliOffshore's workstreams and how they focus on achieving breakthroughs in safety performance that reduce the causal factors of accidents.

For successful collaboration, you need to have senior level buy-in and we are very fortunate to have this among our member companies. We've been able to agree clear strategic priorities to ensure that we are focused on deliverable activities that will provide safety benefits. Consistent leadership from the top has allowed our stakeholders to align their safety priorities around work that has the most potential to save lives. This approach is delivering best practices and ways of measuring safety performance in a consistent way so that we can identify the degree to which further action may be required.

We've been pleased by the extent to which this approach encourages safety breakthroughs in performance and a commitment to shared improvement. Safety issues faced by one stakeholder are often best resolved through the experience of another stakeholder. This is a very interdependent industry. Quite apart from operators themselves, aircraft, engine and systems designers can make operations safer, and training companies can too. Shared data gathered and analysed in a consistent way is a true foundation for this holistic approach. This 'Safety Intelligence' enhances our ability to focus on weak signals of potential issues, and to measure the potential and actual safety benefits of safety improvements, giving people across the industry the ability to make more data-driven decisions.

Lately, we've been very excited by opportunities to step up our collaboration with offshore helicopter operators' customers – the energy companies. The International Association of Oil and Gas Producers is aligning its strategy with our own and has indicated a willingness to contribute to the shared investment in safety. We also work in close alignment with the regulators and with other safety advocates, such as the Flight Safety Foundation so that we're all heading in the same direction. The first three years of HeliOffshore's mission have confirmed our conviction that only through collaboration is there a viable prospect of achieving our industry's ultimate goal of ensuring that everyone who travels to their offshore work in a helicopter gets home safely.

HeliOffshore safety achievements

- Approach Path Management guidelines
- Establishing the InfoShare portal to allow operators to share information about safety incidents
- Collaboration on technologies to help with obstacle avoidance
- Best practice guidelines for health and usage monitoring systems
- Pilot eye-tracking research to support the development of Evidence Based Training
- Research resulting in new guidelines to avoid helicopters landing on the wrong decks
- A series of training videos to show flight crew how to make best use of automation in the cockpit
- Promoted collaboration between aircraft manufacturers and operators to produce Flight Crew Operating Manuals to encourage standardisation of operating procedures
- Progressive introduction of a safety intelligence data sharing programme (a first for the helicopter sector) that will drive key improvements in technology and operating procedures

Gretchen Haskins is CEO of HeliOffshore Ltd., a company dedicated to global offshore helicopter safety. She has served on the board of the UK CAA as Group Director of Safety, and as Group Director of Safety at NATS. Gretchen previously worked in nuclear certification and safety of intercontinental ballistic missiles, joint airworthiness trials for military aircraft, and as an expert advisor to NATO on human performance and safety critical systems. She has flown jet and piston aircraft in the U.S. Air Force.

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CHIRP Reports for FOCUS

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.

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 or pipeline/powerline inspections, 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.

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.

Cabin Crew Reported Sick as not rested for Duty

Report Text: I commenced a duty downroute at 1020Z after a night stop. We arrived at the airport and departed late due to a security incident and flow rate restrictions. We had a 45 minute comfort break back at base before reporting at 1415z for a late 2 sector duty.

This departed at 1618z, 48 mins late due airfield congestion. We landed at 1800z, 1h5m late due snow and then departed at 1910Z. We landed back at base at 2036Z, clearing at 2106Z (the original planned clear time was 1935z).

I then had a duty rostered at 0910z the following morning, giving me 12h4m rest, but as a commuter to Portsmouth (well within our required radius) I was not home until 2230. Following time for personal needs once home and some sleep, I did not feel adequately rested before my report, so I phoned in sick on the advice of management. The managers did try and help overnight by either adjusting or looking for a later duty, but were not able to due to low availability of standby crews.

Lessons Learned - 12 hours between two reports, after a long duty day is simply not adequate enough. Commuting time and time for personal needs must be taken in to account at base, as it is when downroute in hotels when night stopping. More flexibility in our scheduling should allow for when things go off schedule so that rest is not disrupted.

***CHIRP* Comment:** CHIRP receives a high number of reports from cabin crew discussing roster concerns. Many of these reporters have expressed concerns relating to possible fatigue and the perceived pressure to continue flying rather than reporting fatigue to the company. In some cases, the reporters express their lack of confidence in the fatigue reporting system as they have reported before and it has been deemed after an investigation that they were not suffering from fatigue. Because of this, they have then chosen to either continue flying or have called in sick for a duty to be able to rest – as described in the situation detailed above.

EASA FTLs do not account for the commuting time to and from a duty, it is the personal choice of the crew member to decide where they live and whether they commute on the day of the duty or not. EASA FTL GM1 CS FTL.1.200 Home Base states that crew members should consider making arrangements for temporary accommodation closer to their home base if the travelling time from their residence to their home base usually exceeds 90 minutes. Some operators may stipulate that crew members should live within a specified distance of their home base. It is then the responsibility of the crew member to ensure that they comply with this request and, if necessary, find temporary accommodation closer to their place of work to ensure that they are adequately rested before undertaking a duty.

If crew members call in sick when they are fatigued, operators will not have a true picture of crew fatigue and will be unable to conduct accurate analyses. Although CHIRP passes on disidentified fatigue information to operators, this is no substitute for reports submitted directly through company reporting systems, which in turn assist the CAA in assessing operators' management of fatigue. There can also be negative effects on the crew member from calling in sick, such as a higher sickness record and/or receiving less pay at the end of the month.

Cabin crew should not be put off by a company investigation after reporting fatigue – this is essential in identifying whether rosters are causing fatigue or whether there may be non-duty factors or underlying issues not previously known to the company or the crew member. Crew members should include as much information as possible in their fatigue report about their rest patterns and daily life. If, after an investigation has been concluded by a company, a crew member is not satisfied with the outcome, they can choose to dispute the decision and should contact their trade union (if the company is represented by a trade union) for advice.

Why regaining the trust of frontline operators is crucial

By Cengiz Turkoglu

When those who represent front-line staff lose trust in the aviation system, it is time to sit-up and pay attention. Such are the views expressed by the Aircraft Engineers International (AEI)[1]. Those views have also received support from the European Cockpit Association (ECA).

The remarkable success the global commercial air transport industry has achieved is undeniable. The global, regional and national level safety and risk management initiatives managed by organisations such as airlines, maintenance organisations and regulatory authorities are achieving results. However, there is no doubt in my mind, the role that frontline operators play to achieve this success is crucial. The frontline staff such as pilots and engineers who make the decisions whether to release and/or accept an aircraft into service every single day are the operational risk managers of the system. Sometimes they are the last barrier in the system who can prevent an accident.

Safety Management Systems (SMS) have been developed and implemented by many airlines around the world even before it is mandated by their regulatory authority to satisfy ICAO Annex 19. However, I think it would be fair to say that today's success story is the product of safety standards, rules and regulations developed over the decades and, more importantly, effective implementation of them including a robust oversight and compliance monitoring system. Within Europe, the oversight of SMS is undertaken by EASA/European Commission and the National Aviation Authorities (NAAs). Rulemaking on SMS for airworthiness in the EU is work in progress. Operational rules already address SMS and this does impact on Continuing Airworthiness Management Organisations (CAMO) for example.

Mandating SMS implementation is part of State Safety Programmes. A key aspect of this is to ensure that reporting systems are put in place within each organisation responsible for implementing SMS. This will encourage and give the opportunity to frontline operators to report occurrences and hazards they face daily. The aim of reporting is twofold. Firstly investigating, analysing, understanding what happened and why it happened and subsequently addressing the root causes to prevent recurrence of same/similar events within the organisation. Secondly, from a big picture point of view, collecting data will also give opportunity not only to organisations but also the regulatory authorities to analyse such safety data and turn it into 'actionable safety intelligence'. This means key trends are scrutinised, they are further analysed, and key risks are identified and assessed. This will enable the limited resources to be used in the most efficient and effective way to mitigate the most significant risks in the system.

When the professional associations such as Aircraft Engineers International (AEI) publicly declares its distrust in the system, including the regulatory authorities, we really need to ask why and get to the root of their concerns. This may need all parties to be reflective and to challenge their own ideas. However, gaining the trust of frontline operators is an important enabler for sustaining the safety performance achieved to date.

So, I would like to comment on the main concerns raised by AEI and give my own reasoning why I strongly support their argument. The main EU 'Continuing Airworthiness' regulation 1321/2014, which repealed 20142/2003 does/did not include any specific requirements and/or privileges of the approved maintenance organisations to use 'non-licensed authorised personnel' but the following statement is included in the Decision 2003/19/RM of the Executive Director of the Agency (EASA) of 28 Nov 2003. This document is also known as the 'Acceptable Means of Compliance' and 'Guidance Material'.

Note: A "sign-off" is a statement by the competent person performing or supervising the work, that the task or group of tasks has been correctly performed. A sign-off relates to one-step in the maintenance process and is therefore different to the release to service of the aircraft. "Authorised personnel" means personnel formally authorised by the maintenance organisation approved under Part-145 to sign-off tasks. "Authorised personnel" are not necessarily "certifying staff".

Considering the past and projected growth rate within the commercial air transport industry and the shortage of licensed engineers, using non-licensed authorised personnel to carry out low risk maintenance tasks sounds like a reasonable solution. This will – of course – still require the approved maintenance

organisation to ensure that such personnel are adequately trained for the tasks they are authorised to do. This means competency assessment too. Nevertheless, the regulations still require the aircraft to be released to service by an appropriately licenced and type rated personnel who is also authorised by the approved maintenance organisation. Let us not forget, for commercial air transport, the person signing the 'Certificate of Release to Service' (CRS) signs it on behalf of the approved maintenance organisation, which issued him/her the certification authorisation. So, when the certifying staff who takes personal responsibility on behalf of the organisation, deem it necessary to supervise and/or inspect any of the work carried out and signed off by any unlicensed or even licensed authorised personnel, the management of the maintenance organisation should welcome this. Because ultimately this will mitigate any risks associated with the release of an unairworthy aircraft to service. Therefore, I cannot understand why some organisations expect the highly qualified certifying staff to become 'desktop certifiers'. They should be discharging their legal responsibilities by inspecting the tasks carried out by other personnel before they release the aircraft to service. This may even be limited number of tasks they deem necessary based on a risk-based approach, but they should certainly be allowed, in fact, required by the company procedures within the 'Maintenance Organisation Exposition'.

There is no doubt commercial air transport is a complex socio-technical system. Many of the challenges require collaborative approach to provide mutually accepted solutions. Part of this collaboration also requires stakeholders challenging each other to identify potential issues proactively. This is the only way to achieve common goals. It is unfortunate that such disagreements are publicly expressed, and I hope they are resolved as soon as possible. Because usually trust is lost quickly and gaining it takes time, but we should make every effort to start the process.

Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of any of the organisations he is involved. If you wish to discuss the subjects raised in this article, please feel free to get in contact with the author (email@cengizturkoglu.com)

1 https://www.srat.se/Flygteknikerna/aircraftengineersinternational/

& https://drive.google.com/file/d/1-0T02Or8kcN02FiM_HP8slwCO1tqBTZc/view

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