

## Thought Leadership



One small step for management one giant leap for error management

### Conference speech notes to the Royal Aeronautical Society

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This paper has been written in order to explore the optimum means of integrating an HF/MEMS system into an organisation. Much has been said in the past, in fact it's all been said before...how to launch a programme, how to measure return on investment etc. What I intend to cover in my paper is what approach has or has not been successful for my company over the last three years of working with clients and their programmes as a specialist consultancy.

There is an order of roll-out if we get this wrong we will fail in our lofty attempts. If we get it right we may begin to put our companies in the position whereby they can begin to manage error, which we should not forget is why we are all concerned with Human factors training here today. What we hear most of in our dealings with both EASA Part 145 approved maintenance organisations and their regulators is HF training, HF training roll-out, before 28<sup>th</sup> September 2006, HF training cost, HF training content, HF training and its affect on production...etc.

What we rarely hear is I need to get my maintenance error management system in place including my revised disciplinary policy, hazard reporting system, procedures drafting and validation procedure/process, investigation tool and trained investigators in place before I launch into this expensive HF training programme. What we almost never hear is I want our senior management team trained before we do anything!

All HF training seems to be concentrated on the cost of delivery to the (typically) largest affected group...the hands-on people...after all that's what this HF thing is all about isn't it, stopping them from making costly blunders? If only we could get them to realise that their behaviour and performance is what all the fuss is about! The cost of roll-out is big so the amount of effort expended is biggest.

I have now been attending Human Factors symposiums, conferences, workshops and presentations since 1993, and even when working with the Boeing team back in the early 90's as the British Airways representative on the MEDA project; everyone said time and time again: to make this HF thing work we need management buy-in...how many projects has your company embarked upon in its history only to be replaced by another whereupon staff are often heard asking what happened to the last one...TQM, LEAN, Just-in-time etc.? Well here

I want to further explore, following the last three years spent helping clients to actually make it happen and exactly how important the order of HF training roll-out is.

It is our strongly held belief that as the greatest return on investment for your training Euro/Pound or Dollar is within the management team. Lets take Delta Airlines as an example 7,200 mechanics trained yet the HF man (yes it is one man) spends much of his time standing toe to toe with the management team jealously guarding *his* (that's how it is seen) just policy. If only he says we had spent as many man-days (one man-day would have been good) training these senior people to fully understand just how delicate the balance is between the company just culture and the success of our Human Factors and error management programme success or return on investment. Right now the approx 600 Part 145 maintenance organisations in the UK are all spending huge amounts of bottom-line, hard-earned cash on human error, and now as a result of the JAA's efforts on intervention regulations part of which is these hugely costly HF training courses. If only we could get the senior team to attend one-day training course first, if only we could get them to see it the way we did, they would drive it from the top down...is this all pie in the sky?

Shall we go for the tick in the box to get the regulator off our backs; well I am of the opinion that you might as well do just that unless you have

1. Established your MEMS system that can deliver what it should to the staff once their expectations have been raised following training.
2. Have a meaningful ROI model
3. Have trained the senior team (the board if necessary) so that they *want* an error management programme with which your expensive HF training can flourish

Most of you will be here to understand all you can about how other companies are solving this regulatory burden; certainly enough food for thought to enable you to calibrate what you have done so far, or are about to do shortly.

If what we suspect is correct then our message in this paper would be to get the order right (as above) and stick to it no matter what. We would go as far as to plead that the regulatory body support you in this ordered approach, because to simply have everybody trained by the 28<sup>th</sup> September 2006 is great from a compliance perspective, but has little to do with reducing maintenance incidents such as the British Airways B777 in June of this year and accidents such as the Air Transat A330 glider in 2000.

Again let's recall the objective of these regulations to reduce maintenance derived accidents.

So how do you do it, how do we suggest that you get the management team to the classroom...and if you are successful what do you teach them once they sit down?

I would like to quote one example a Part 145 company...where the Quality Assurance Manager opened himself and his organisation to our advice, the first of which was as it always is: "can get the managers diaries and schedule a one-day training session"? Apologies in

advance to the manager in question, but the answer is always the same, no matter where we go: “the likelihood of getting the senior team together in one room for a whole day...you must be joking”! Whilst preparation in the training room, the evening before the delivery of this *impossible* managers training session, I was soothingly informed by the same Quality Manager “if it’s no good, they will call a halt to proceedings at lunchtime tomorrow...they are very busy people”. As you will imagine, I slept well that evening? This is again a common problem, and one I believe is due to the fact that this HF thing has been around since the early nineties, our management team have formed a perception or mental model of what Human Factors is all about. It is one of the most difficult things that we have to overcome, before we can move forwards. What we hear most commonly is: “that manager has done HF training for his PPL; he doesn’t think he needs to attend”. “He sent some of his people for a two-week HF course in Dublin two years ago and they all came back full of ideas about taking everyone out of the hangar for a week at a time”, “We tried HF before; it simply gave the Unions an additional lever against us”. “Yeah HF that’s stress and being tired isn’t it, we had that training before”.

What this vital manager’s day is all about is getting over these misconceptions a doubly difficult task if the company has some experience of an abortive HF programme and communicating what this programme is *really* all about. This is the one place that external to the company support is probably of greatest value.

Before this training be very clear what you intend to call your programme...if only we didn’t simply refer to it as Human Factors training...but more appropriately referred to it as an error management programme (within which HF training needs to reside).

Another example would be the company whose management team could only be persuaded to give-up half a day. The formal end-of-course feedback interestingly listed 80% of these same management attendees as wishing the course was longer. So a lesson might be to settle for the half day, wet their appetite (read change their perception of what HF is about) and they will want to come to the next session, which strangely enough could then be a full one day and far more interactive facilitated course.

It has been common that the formal end-of-course feedback to say (from managers) I want all my staff to attend such a course. Case sold!

Following attendance at a dozen or more annual HF conferences that the presenters typically lean on an open door in that the audience (probably like today in here) is made up largely of QAM, training managers and hands on training staff. It is therefore my very strongly held belief that we now have a once in a lifetime opportunity to change that. The EASA Part 145 regulations clearly require us to consider everyone whose errors could affect safety and airworthiness for the need to receive training on human factors and human performance (I would simplify this, for managers and call it managing error, but the regulator might disagree?). Never before has such an opportunity been afforded to us...never before did we receive such a gift from our regulators, one I can tell you our American Quality Managers would give their back teeth for, we should all shake our regulators hands. Miss the opportunity to get the senior team together and change their perception and we are sure to

fail in our industries error management objectives. Above all, talk as we undoubtedly will here today, about how to conduct HF training will be wasted once we launch an already cynical hands-on audience back into an unchanged and unchangeable maintenance system once again.

The most commonly voiced concern we hear from production, supervisory and support staff (during their HF/MEMS training course) is “this is all very interesting, and yes at last we are discussing what its really like out their in the workshop, hangar or line...but how much training has our management team had on this? And what is their take on it”? My answer is (if we have the order of implementation correct: “A very intense one-day session and look at what they have signed...the company safety policy, which commits them to applying the principles of HF. If we really have it right the most senior manager opened the staff course and said this himself!

One client has seen the return on their investment

### **What are we hoping to achieve?**

1. Get the whole top team together in one room on one day – preferable away from the facility and their phones (this is never going to happen, but aiming high means settling somewhere in the middle)
2. Be very clear and concise as to the objectives of this session namely that they need a proactive error management system and without such a programme the business faces risk
3. That they leave with a clear understanding that error lives in us all, not just a few isolated poor performers...they need to accommodate error in the system.
4. Facilitate the day such that they speak as much, if not more than the deliverer.
5. Get them to argue among themselves to attain the key learning objectives, particularly regarding how they agree to behave
6. Ensure that they leave with a clear and concise ‘new set of behaviours’ in other words what behaviours they need to exhibit to ensure that the error management programme remains an asset to the organisation and improves the bottom line.
7. Keep it light on Human Factors and heavy on organisational learning/safe cultures
8. Ensure they leave with an understanding that this HF thing is good for business, and that ccompletely integrating error management into the daily business process of the organisation makes good business sense
9. Ensure that they go away hungry to see the output from the MEMS and performance of the programme though defined metrics
10. They want to see the error budget
11. They need to be able to list what the following headings will do for their business:
  - a. What is HF and MEMS

- b. What they need to do to ensure a reporting, investigation & feedback culture
- c. Just culture – Disciplinary policy

### **What is the ultimate prize?**

If you achieve these ten objectives from the senior team session you might just result in a pull approach to your error problem rather than a push one. I have seen organisations in the UK where the top management routinely seek performance metrics and feedback from *their* error management system. Additional benefits might also be to improve your chances of achieving the following.

One of our clients has begun to see the depths of their error iceberg emerge from the murky past of their blame and train approach to error management. In fact they have seen in excess of 70 hazards reported, the first steps towards a learning culture and all this in eight months since the start of their HF training course roll-out and only fifteen since they embarked upon a MEMS programme.

Let's be clear that ROI is almost wholly reliant upon staff buy-in and maintaining that buy-in must be seen as the ultimate goal.

In how to get management buy-in – I recommend identifying what the HF/EM programme is all about and dispelling the misconception that this thing is all about stress. Above all getting the top team to list the risks to their business and then demonstrate exactly how the HF/EM programme can contribute to the mitigation of those risks.

### **Final message**

In this 30 minutes I hope to have been able to convey that the days since JAR 145 Issue 5 and 28<sup>th</sup> September 2006 will have been a waste of time and effort for the regulator, industry and those who make a business out of filling the void that potentially exists between the two...unless we agree that maintenance Human Factors training is only a waste of time unless it is:

1. Driven to the management team – golden opportunity
2. Exists within a MEM Programme – alone it will cost the same amount and surely fail

Attempting to train the senior team in Human Factors, and particularly Human Performance Limitations, is an extreme waste of this golden opportunity. What we want from the manager's session is one thing: **Buy-in**.

HF training is only one element necessary in an error management system. You will be unsuccessful if you believe that you can change your company culture and behaviour through a sharp-end training programme...you will only set in place the elements necessary by

winning the management over and changing their perception of what its all about and what it could do for them and the company bottom line...never will such an opportunity exist again.