

PACDEFF Speech

Given that a lot of the industry is looking at refresher training, or will be coming up to it soon, I thought it would be a good idea to look at how to use an incident and/or accident example from your company in your HF program. Now, it sounds fairly obvious doesn't it, if you have an incident with a good HF component, then add it to your refresher program, describe what happened and tell everyone what lessons can be learnt from it. It's a great idea, but I wonder if the investigation results are really telling us what happened from an HF perspective?

The two questions I would like to explore today are:

1. How do you use the lessons from incidents to make a meaningful refresher program
2. What are these incidents telling you about your initial training program?

This links in with what Dr Steve Jarvis spoke about in the opening address to this conference. Quality CRM or HF programs need to have valid feedback from the SMS to make a good training program. A refresher program that is conducted for the sake of ticking the box, but isn't really relevant to the organisation, probably does more harm than good.

To examine this idea a bit further, I thought we would run through a scenario.

For this scenario you are the safety manager in a small regional type airline. Even if this is not your role in the real world, or you rely on investigators within your organisation to provide you with this information, have a think about what I am going to discuss, because ultimately the quality of the information you are receiving is going to have a significant impact on the usefulness of the training you are providing.

So, you're having a good day, you're on top of your workload, your boss has just commended you on the latest safety report and you have just got a free coffee from the coffee truck for being a loyal customer, this is about as good as life gets for a safety manager. Then this lands on your desk.

Incident Report

Yesterday I was on approach to Batlow Airport. I was a bit fast on approach and I ran off the end of the runway (just a little bit) and the nose-wheel went over a rock. There were a few scratches on the underside of the fuselage, but it didn't look too bad. The passengers were upset, so I told them that there was a sudden shift in wind on landing which is why we went onto the grass. The FO and I were flying back empty so I decided not to worry about calling Engineering and telling them about the incident, I just flew it home. I have just shown it to Engineering and they told me I should put a report in.

As a Safety Manager, what do you do?

- a) Take a deep breath, bang your head dramatically on the table and then go and discuss possible disciplinary action with the Chief Pilot.
- b) Call the pilot and ask them to come in for an interview.
- c) Go and check out the damage yourself. If it's not too bad, it's probably not worth investigating.
- d) Click on seek.com.au and see what other life options are available. Ohhhh, there's an interesting position as a florist in Noosa – that sounds more like it.

Option a is one that is often taken when there are elements of the event which may require some retraining or even disciplinary action. Granted, the pilot should have reported the event. But is that the main lesson to come out of this event? As soon as you go down the path of disciplinary action and involvement from other departments, the chance of getting some great HF data decreases dramatically. It's only human nature. If you have just been hauled into your boss's office and told of the 8 different ways you are a disappointment to the human race, you are unlikely to skip into the safety manager's office and have a frank and open discussion about the errors you made on that flight.

C is also sometimes a tempting option. If nothing has really happened, should we really bother looking at it? Some of the best human factors incidents you can find will be when nothing has happened. There were no injuries or damage. In fact, sometimes the whole event happened purely in someone's head and would not have been noticed by anyone else. Don't discount an investigation based on the outcome of the event.

For this exercise we will imagine that you have resisted option D and the strong urge for a sea change and a career re-evaluation and you have decided to give the pilot a call and find out a bit more information. He's a friendly, enthusiastic young guy and he's keen to come in straight away.

Do you:

- a) Agree to meet him in 20 mins. That will give you just enough time for jot down a few notes about the importance of reporting, why he should have spoken to the engineering dept straight away and what the Chief Pilot will want to do with/to him.
- b) Set up the meeting for tomorrow. In the meantime, think of as many questions as you can to ask him about the event.
- c) Put it off till the end of the week. You have a lot meetings over the next few days that you need to prepare for. This will also give him time to calm down and think clearly about the event.

a) Rushing into the interview will make it very difficult to consider all the different HF elements. In the excitement of a significant incident there will be a lot of pressure from everyone else to find out what has happened. Organising to do an interview straight away is setting yourself up to miss a lot of vital information and most importantly a lot of the human factors information. Poorly organised interviews tend to focus on what happened and miss the most important reason for the interview in the first place – finding out why it happened.

c) leaving it too long will risk missing some vital information that they have since forgotten. It will also give other departments, colleagues and friends a chance to contaminate your source if information.

It's best to talk to someone in the day or 2 following the incident, depending on the urgency of the event, so that the story is still clear in their mind. By giving yourself a few hours to prepare, you can consider all of the human factors elements that may have been present. Was he fatigued? There will be a lot of questions regarding situational awareness – was he aware that he was fast on approach? If so, when did he become aware? What about his decision making – why didn't he conduct a missed approach. Were there any workload management considerations? Did the pilot become fixated on something and everything else went out the window? There will be a whole host of other questions about his experience, training and so on, but make sure the HF elements are considered and written down. It is really hard to think of all of those different aspects to the event during an interview.

So, during the interview the pilot tells you that he was fast and high on approach, you ask the pilot if he considered conducting a missed approach at any point and he says that he did have a fleeting thought about it, but figured he could probably stop in time. You may then ask him what the SOP's were for this scenario and he recalls that if he hasn't touched down by a certain point he was required to conduct a missed approach, but he didn't. So he knows the rule, but still didn't follow it. He made an intuitive decision in the heat of the moment and got it wrong.

Do you:

- a) Conclude the pilot made a poor decision and tell him to lift his game.
- b) Get the pilot to find a copy of the appropriate procedure and discuss it with him.
- c) Ignore the whole event – nobody got hurt.
- d) Ask the pilot what caused him to make a poor decision.

a) Again, this is an option that is all too often selected and this is where a lot of investigations stop. He made a poor decision, and there's no apparent reason for it. You figure there's not much you can do about it, so tell them not to do it again and get on with your day. There are a number of problems with that approach, but from the perspective of trying to improve HF skills, it achieves nothing. The pilot didn't wake up that morning hoping to go out there and be bad at his job. A motivation speech about decision making isn't going to do anything to improve his skills.

b) The pilot knew the procedure, knowledge wasn't the problem here.

c) Again, basing investigations on the outcome of event means you will miss a lot of great safety data.

So I am looking for answer D.

A lot of investigations stop before this point. He made a poor decision and there's no apparent reason for it. But your job to find out why. So, in this scenario, you ask the pilot what he was thinking in that moment, why does he think he made the decision he did and he reveals that over the last few months, he has become more confident with his flying abilities on this new aircraft type and has probably been making riskier decisions than before when he wasn't as familiar aircraft. He confides that he has had a few close shaves, but figured that was all part of getting to know the aircraft.

Now, you're starting to get some very useful information about his intuitive decision making processes.

Let's pause the investigation for a moment to look at what an intuitive decision actually is. Many people think that an intuitive decision is one made as a result of a mysterious sixth sense, however, you are not born being good or bad at making intuitive decisions. An intuitive decision is a sophisticated form of reasoning that an expert hones over many years of job specific experience and it allows that person to proceed directly to the best option without much analysis. This may be in the form of applying a rule or choosing the best solution from a number of options.

3 year olds are typically rubbish at making good intuitive decisions and there's a few reasons for this, but primarily it's because they don't have much experience with the problem they are trying to assess, but they learn very quickly. If it hurt to jump off the top bunk yesterday, most, but not all, 3 year olds won't jump off the top bunk again today.

So you might say that intuitive decisions are experience based and in that regard there's not much we can teach people as a part of an HF program about improving this skill. Well, when you break it down, there's certainly an experience aspect, but it's more than just sitting in the left hand seat for x number of hours. You don't magically become a good decision maker at 10,000 hours and

conversely, you are not destined to be a bad decision maker at 200 hours. People get a lot better at both analytical and intuitive decisions when they are consciously learning from each decision they make.

So how do you use this example as a part of your HF program to improve everyone's intuitive decision making skills, not just the pilot involved? As a suggestion, after discussing the event, give people this one strategy: at the end of each day have a 5 minute review where they look at what decisions they made well and which ones probably weren't the right option. Tell them to fight that uncomfortable feeling you get when you have done something badly – the one that makes you embarrassed and even a bit insecure and almost instinctively makes you never want to think about the event again. Tell people that this feeling is normal, but as a professional pilot, cabin crew member, engineer or baggage handler, they must overcome it. Make it a part of their routine, that each day they review their decisions- this will give that person an invaluable free lesson into their own decision making strengths and weaknesses.

If one week prior to this incident, this pilot had pushed on in a different scenario when he thought the margins were a bit tight and it was contravening SOP's – if he had taken that opportunity to review his decision, rather than just breathe a sigh of relief that he had gotten away with it, he may have considered that when he is making decisions under time pressure, he tends to be riskier than he should be. Once he has learnt that about himself, he is going to be more aware of this tendency with his decision making and may decide to come up with a personal strategy like, whenever I get that uneasy feeling that this is going to be tight I'm not going to press on. I'm going to buy myself some time or height or options.

If your HF refresher program uses this incident to provide everyone with strategies on how to improve their intuitive decision making skills, you will actually be getting value out of the program. This incident can be the trigger for everyone to review how they are assessing their decisions and what they can do to improve that particular skill.

So, let's a look at what has been learnt from this event so far. If you had not investigated this incident any further, or had done a very superficial investigation, you probably would have used this example to illustrate that pilots sometimes make poor decisions. But what would have been achieved? Does pointing out someone else's poor decision teach you much about decision making? All too often incidents are simply used in refresher training to show where someone did something wrong – they didn't follow a rule, they were a poor leader and so on, but don't delve any deeper than that to work out why and more importantly that don't give us any strategies to improve our performance.

OK, let's back to the investigation. I want to use this next section to look at what your incidents may be saying about your initial training program. Is there a problem area that is coming up frequently?

Alright, your interview has provided some fantastic information.

What do you do now?

- a) Write up a safety report and file it.
- b) Look at where else you might get some information on this incident.
- c) Nominate the pilot for employee of the month.

The pilot probably isn't worthy of employee of the month status so we can rule c out.

There will come a time when you need to draw a line in the sand and say, for the time and resources available, we have learnt all that we can, let's wrap it up and issue a report.

However, in this instance I think I would pick B. Any time you have 2 or more crew involved, it can be very valuable to get another person's perspective. Sometimes you have to wonder if they were in fact on the same flight. This is especially important if you are looking at elements like situational awareness – what one crew member noticed, but was missed by the other crew member, may be vital to the investigation,.

So, you decide it might also be worth talking to the First Officer. The FO is a new pilot that had only been with the company for 2 weeks. In fact, you had her on your human factors training course just last week.

This interview is particularly revealing. She has 3500 hours including 400 hours on type. She describes how the approach was clearly hot and high from early on and the Captain floated down the runway for a long time. She considered calling for the Captain to conduct a missed approach, but she wasn't sure if she should do that, given that this was only her 3rd flight with the company and the Cpt was a respected person within the organisation. Although she does recall the Captain briefing her, saying that if she had any input to make, she was more than welcome to speak up.

What has her interview told you about your company?

- a) You may need to review the assertiveness section of your initial HF program.
- b) You need to make sure there is a procedure outlining when staff members should be assertive.
- c) Females are always bad at being assertive (you really don't want to select this one)

Let's hope no-one goes near c.

b) – no, the procedure is already in place. In this instance, it was not about knowing the procedure or even knowing about assertiveness it's about having the skill to actually be assertive.

a) – now, this is a one off event, but if you are starting to see ongoing incidents where new employees are not showing appropriate levels of assertiveness, then you might need to look at option a.

Ask yourself - this pilot did their initial HF training last week. You talked about assertiveness for half an hour. You remember that she was an enthusiastic member of the training group. Surely she got it, right? These type of questions may be a good starting point to ask yourself, is your initial training program adequate in that area? Are you just teaching knowledge and awareness or are you providing strategies for skill development?

Does your initial training program include things like this:

It is important to be assertive.

Discuss accident where a pilot wasn't assertive where they should have been.

Here are the different levels of assertiveness – Express concern, state a preferred action, challenge their actions, take over control.

While this type of program has certainly increased the student's knowledge and awareness about assertiveness, it hasn't been effective in increasing their skills. You have taught them what to do, but not how to do it and this isn't easy. Plenty of people have died because they have been uncomfortable about speaking up, or unsure how to.

This might be a good opportunity to research and discuss amongst your colleagues, some strategies to give to people to improve their own performance.

You may come up with things like this:

- Recall a time when you weren't as assertive as you should have been and answer the following questions:
 - What did you say out loud and how was this different to what I said to myself at the time
 - Why was it different
 - How should I have said it
 - Where is my next chance to be assertive
 - What will I do differently next time

Getting people to think about their own performance and develop their own strategies is far more effective than telling them just be assertive.

You may also provide them with ways to start the sentence.

- The next time I'm uncomfortable, I am going to use phrases like:
 - I'm getting outside my comfort zone. I'm not happy to continue.
 - I don't agree, I think we should.....
 - That's outside the rule/SOP's, we can't do that.

These strategies all get the person thinking about their own behaviour and encourages ongoing development.

So, that's all I wanted to talk about today. Hopefully this has got you thinking about your refresher and initial training programs and how important a good human factors based investigation is in feeding quality data back into your course.

I hope that it has provided you with some ideas on how to create a really effective refresher program that is relevant to your people and is actually improving their skill level.