Managing Risk and Safety Management Systems (SMS) April 2012

AIRCARE^{TM} requires you to have some fairly robust practices to manage the risks in your business. Have a look at the AIRCARE^{TM} Audit Checklist to see what you have to have in place to do this.

Those new to the risk assessment process may find the following key concepts helpful.
- Risk is formally defined as the effect of uncertainty on objectives

However, it may be easier to think of it as the combination of the chance of something occurring and the effect of that on what you are trying to do. This can in turn be shown as;
- Risk Level = Consequences x Likelihood (R=C x L)

This is fine if you can put numerical values to both the consequence and the likelihood. However, this often isn't possible or valuable and beside there is a simpler way that works well most of the time - that is to use a pre-prepared risk scales (for both consequence and likelihood) and risk matrix (smaller GA operators should find the new Aircare Risk Matrix suitable). The matrix combines the level of consequence with the expected likelihood of each identified consequence to give us the level of risk (the risk rating). You will notice that the consequence is measured in a number of ways - each reflecting the various 'objectives'. These include both your own business objectives (eg, make money, maintain aircraft operational, maintain accreditation etc) as well as objectives imposed on an operator by the law, regulations and rules (eg. comply with the CAA rules, don't hurt people, don't spoil the environment).

The other key concept needed before you can start assessing and managing risk is that of 'Hazard'. It's easy to mix up risk and hazard and the difference may not at first seem obvious. However, the difference is actually really useful and besides the term is used in both health and safety and aviation safety fields. In simple terms a 'hazard' is a source of risk - something that can cause risk. Try this:
- Hazard is the puddle of oil on the painted hangar floor
- Risk is the chance that you will hurt yourself if you or someone else will slip in it. The more people who walk by (often referred to as exposure) the higher the likelihood someone will get hurt and so the higher the risk.
- To manage the risk you can;
- Eliminate the hazard (mop up the oil)
- Isolate the hazard (shut and lock the hangar doors)
- Protect again the hazard (put a slippery floor sign up)

The AIRCARE^{TM} SMS Manual requires you identify your hazards, to measure (rate) your risks and then to mitigate those risks. There is a risk register template available in the SMS Manual that is a simple but very effective way of stepping through the risk assessment process and to design and implement mitigation measures. In other words, it helps you to list hazards and describe the risks and come up with a value for how much risk each hazard represents to you, and then to record what you are going to do about it. You start by judging how serious the consequence of an event or circumstance would be by selecting the highest impact type from the consequence scales. You then repeat the process for the likelihood that the consequence will occur (this may not the the likelihood of a given hazard). Combine the two ratings using the matrix at Annex E in the SMS Manual to determine the level of risk. (Additional copies of this matrix can be downloaded from www.aircare.co.nz/resources) When you are assessing your risk(s) using the scales and the matrix we highly recommend that you share this exercise with as many of the staff as possible otherwise

you may not get an accurate assessment (sometimes referred to as the wisdom of crowds). It is also good practice to remember a well known quote from General Paton - If everyone is thinking the same, someone isn't thinking! In other words, don't just accept the first judgement, question yourself and be honest about any doubts - after all gravity and speed are pretty unforgiving mistresses!

Here's another useful term: "Risk Control". Formally it means 'something that is intended to modify risk'. You need to consider the effectiveness of any existing controls (checks, procedures, training etc)

Done that? OK now see what value the risk has and if it is unacceptably high for you, then you need to put some controls on the risk to bring the risk level down. This is not about NO risk – just acceptable risk. Another useful concept is "As low as reasonably practicable (ALARP). Some risks will be obviously too high while some will be obviously negligible. It's the ones in between that need to be controlled - driven down to a level that is ALARP. Once you have a list of risks in your register, you can rank them and put in the amount of effort based upon their relative level and the available resources. This process is valuable, not just in the operational sense, but for all types of risk management - like business, compliance, safety, legal, reputation etc. It is an extremely valuable tool to have in your toolbox.

You can reduce risk level by reducing either the consequences or the likelihood or both. For instance you can reduce the likelihood by developing an SoP, providing additional training or resources, or doing preventative maintenance. You can reduce consequences by keeping people away or by wearing protective clothing, helmets etc. Single controls must be considered as vulnerabilities as there is little or no room for error. A range of controls (multiple layers of defence) is far more effective and reliable.

When you have decided what controls are appropriate for you, then go back to the matrix and run the model again to see where your residual risk rests. Is it now acceptable? If so then all you have to do from here on in is revisit the controls you put in place and ensure that they are still working and are appropriate and are doing the job for you. Typically this will be done at your regular staff meetings. If the risk is still unacceptable then go back to your controls and any other one-off or special measures you can take.

Congratulations, you've just completed a formal risk management process. But remember that risk management is a journey, not a destination - so keep revisiting those controls to ensure they are appropriate. … one more term "mindfulness" …. be constantly mindful of the importance and health of controls and be risk aware. Also, 'change' is quite rightly regarded as a key risk ….. always review your exposure to hazards, the effectiveness of controls and your level of risk before you plan changes to your business or operations, if, something in your environment changes and if change is imposed on you.

AIA routinely runs two Risk Management courses a year. They are HIGHLY RECOMMENDED because being able to use risk management brings enormous value to your business.

In the past if you have been running a Quality Management System you will be used to using a non-conformance report or a Quality Indicator Form to report your hazards or incidents. Sometimes it is hard to get staff buy-in to completing such forms and when they've finally got there, along comes a new system like AIRCARE[TM] with its SMS. So the following form has been developed to meet all the different aspects of reporting in a management system.

You may use the Risk Assessment forms in the SMS Manual or you can use the form following or you can use one of a large number of variations including the good one produced by Eurocopter, or you can make your own. But the important thing is that you DOCUMENT your risk assessments and their subsequent reviews.

Note that a revised AIRCARE^{TM} SMS Guidance Manual Edition 3 is on the website now.

Now here's one that might interest you. Any idea what is the difference between a Quality Management System(QMS) and a Safety Management System(SMS)? QMS tries to ensure that you don't make the same mistake twice. You have something go wrong and you use corrective and preventative actions, internal audit and management reviews to ensure you don't make that mistake again. So QMS is reactive.

SMS on the other hand tries to ensure that nothing goes wrong in the first place so it is a proactive process. And guess what? SMS achieves that through Risk Management. By thinking about and identifying hazards, controlling hazards and reviewing those controls.

SMS requires you to have a Safety Policy. HSE requires you to have a Safety Policy. Why on earth have two? AIRCARE is meant to be simple and there is certainly no intention that you should have yet another suite of manuals! Part 1 of the AIRCARE SMS Manual is able to be altered by you so why not cut and paste your existing HSE Manual into it? OK you'll have to edit it a bit maybe. As time goes by and as CAA requires you to have SMS you have the option of putting more material into the AIRCARE SMS Manual or maybe just adding SMS principles to the processes you have already documented in your existing manual suite. Time will tell what CAA requires but just keep thinking about the difference between QMS and SMS and how simple this difference really is.

Hopefully this document plus the other resources on this webpage will take the mystery out of SMS and help you through the AIRCARE™ Accreditation process.

Are you asking yourself, is this process a waste of time and just extra compliance? The main beneficiary of managing risk is YOU and your business, although there *are* spin offs for the entire industry.

Take care out there and stay risk aware.

TO RECORD ALL PROBLEMS / COMPLAINTS / HAZARDS / INCIDENTS / ACCIDENTS / RISK MANAGEMENT

Date: .... Reported By: .... Reference No: ....

Signed: .... I hereby report the following Problem / Complaint / Hazard / Incident / Accident/ Risk (Delete not applicable)

....

....

....

Location:...

I have assessed this report and consider it VALID / NOT VALID for the following reasons:-

....

....

And/or have assessed the risk:...

Potential Consequences = ……….. Rating as determined from the risk scales

Likelihood = …………Rating determined from the risk scales

Risk (before corrective action) = ………………..Assessed using the risk matrix.

Assigned to for Corrective Action: ....(Name)

I have carried out the following Corrective Action or adopted the following control(s) to mitigate

risk: ....

....

....Risk review required date:............................ Mitigated risk rating = ………

Signed: .... Date Completed: ……./……./…..

The Corrective Action or risk associated with this report has been re

assessed:..

Signed: .... Haz Register, SMS, RM Manual, OMM, Ops Man Date: ……/……/…..

(circle changes) (Operations Manager)

....

Except for Review of any Risk Controls this Report has been:...

....

and is now CLOSED.

Signed: .... Date: ……/……/….. (Internal Auditor)

This form is to be filed in the Safety Manager's Office for a minimum period of 12 months following the date of issue.