Measuring Success.
By Richard Carlson SSF Chairman

In most parts of the country, spring is the time when Soaring begins again. Most clubs and commercial operations will host some kind of safety seminar. These seminars remind members what happened last year and what to look out for this coming season.

Clubs and commercial operators support a safety culture in multiple ways. We have safety officers or safety committees that monitor the flight and operational safety threats. These individuals step in when needed to fix problems when they are identified. Our safety culture empowers everyone to act as a front line safety manager. Empowering the wing runner stop the launch operation due to someone or something encroaching on the runway is a prime example of a strong safety culture.

The question we seldom ask ourselves is, what metric am I using to show that we were safer last year than 2 years ago? We may also ask ourselves how we will demonstrate that this year will be safer than last year?

To answer these types of questions we need some kind of metric or value to represent our safety culture.

For the past century most of us would use the Safety-I definition found in "Safety-I and Safety-II: The Past and Future of Safety Management by Eirk Hollnagel" as our metric. That definition is:

Safety is the condition where the number of adverse outcomes (accidents/incidents/near misses) is as low as possible.

That means if we had 4 adverse outcomes last year and 5 the year before, then last year was safer than 2 years ago. For this year to be safer than last year we need 3 or fewer adverse outcomes.

A scenario can help clarify what an adverse outcome is.

Burt and Ernie are partners in a Ventus 2Bx. The ground adjustable seat and in-flight adjustable rudder pedals allow both pilots to comfortably fly the glider. Today Burt was rushed and forgot to set the seat back before putting the glider on the flight line. As the tow begins he realized that he has trouble getting full elevator authority and this distracts him from moving from negative to positive flaps as normal. About 150 ft AGL the towpilot activates his release to prevent a towplane upset (kiting) crash.

A Safety-I accident report would state the probable cause as: Loss of Control – Pilot failed to properly perform a pre-launch checklist.

The lesson learned is that the proper use of checklists is essential for the safe operation of the glider.

Unfortunately, we can all make a mistake and get distracted while doing the checklist, or become complacent and simply mouth the words without actually taking the appropriate actions. While your instructor can teach and enforce checklist usage, they can't guarantee that a pilot will not make a mistake sometime in the future. Also, do you really think that Burt did not know the value and importance of using the checklists?

Thus the other members learned again the importance of using checklists. But does that really sink in? Will it prevent them from making a mistake in the future? Is there a better way to learn this lesson?

That is where the Safety-II program comes in. It defines safety as:

Safety is the condition where the number of successful outcomes is as high as possible.

Let's look at a slightly different version of the scenario above.

Burt and Ernie are partners in a Ventus 2Bx. The ground adjustable seat and in-flight adjustable rudder pedals allow both pilots to comfortably fly the glider. Today Burt was rushed and forgot to reset the seat back before putting the glider on the flight line. While seated in the glider with the tow rope attached he closes the canopy and realizes he doesn't have full elevator control. Before giving the thumbs up signal, he opens the canopy, pulls the release, gets out of the glider and resets the seat back to it's proper position.

No adverse outcome occurred. The launch line may slow down while Burt straightens out this issue, but nobody is getting hurt this time.

What message would you like your members, students and pilots, to take away from this scenario? That Burt, while rushed caught a major error and fixed it before it caused an accident? Should Burt be criticized for making this mistake, or congratulated for preventing an accident?

Perhaps you would really like to know how Burt detected this potential threat. Was the position of his arm while closing the canopy different than normal? Did he realize that getting full forward elevator was impossible while doing the pre-launch checklist? Was his head further from the instrument panel, making it harder to focus on the instruments? What other ideas can you come up with?

While it should be obvious that this is a good outcome, were the lessons learned captured and shared with the membership? In most cases, the answer is no. The event and it's outcome are forgotten.

However, the Safety-II methodology says we need to capture this. That is the main point. Learning how Burt identified this threat and what he did to prevent the accident is the important result. That is what can be shared with the membership to aid them in learning how to identifying and mitigating threats.

In some sense we, the aviation community, have been doing this type of Safety-II reporting for decades. The best 'I learned about flying from that' type stories point out how the pilot identified and mitigated the threat they found themselves in. As a community, we just don't highlight them as much as we do the accident reports.

As the 2025 soaring seasons begins, now is the time to start collecting both Safety-I and Safety-II reports at your club or commercial operation. Devise some method for recording them and sharing the results with your membership on a regular basis. Try and drive the number of Safety-I reports down while driving the number of Safety-II reports up. Doing so will help you develop a modern Safety Management system with a strong safety culture that benefits all of us.