

Questions and Answers

Relating to proposed updates to the Flight Safety Code 4.0

The following questions have been compiled following an information session on Monday 15th September 2025 about the proposed updates to the Flight Safety Code 4.0.

If you have further questions about the consultation, please contact regulation@space.gov.au.

Details of the consultation, including a link to the survey and a copy of the proposed updates, can be accessed at <https://consult.industry.gov.au/flight-safety-code-updates-sept-2025>.

Question: Is there guidance for the internationally recognised standard to design the flight safety system (FSS)?

Answer: Yes, there is guidance for designing Flight Safety Systems (FSS) for space launch and return operations. The RCC 319 standard from the U.S. Range Commanders Council provides detailed technical specifications for flight termination systems and is considered by the Agency to be the gold standard for flight termination systems. The Agency also considers RCC 324 to be an acceptable standard for flight safety system airborne tracking sources. Chapter 6 of SSC191-701 from Space Systems Command also provides guidance for the ground elements of a flight safety system. Applicants are encouraged to engage early with the Agency to discuss their flight safety system design approach.

Regarding the introduction of a requirement for a FSS onboard re-entry vehicles, has there been any thought on what system is acceptable? Unlike launch vehicles, the current use of FSSs on a re-entry vehicle is not necessarily conducive to protecting the public.

Yes, there has been regulatory consideration regarding the use of a FSS on re-entry vehicles. The Agency acknowledges that abort strategies for re-entry vehicles may not be as effective or applicable as they are for launch vehicles (due to the nature of re-entry dynamics and limited control authority). Ultimately, the acceptability of a re-entry FSS depends on the vehicle's design, mission profile, and demonstrated ability to meet public safety criteria.

Does the Code intend to apply the same requirements to all launch vehicles, or will there be a tiered approach based on vehicle type and maturity?

No, the FSC does not apply the same requirements uniformly to all launch vehicles. It supports a tiered and flexible approach based on vehicle type, maturity, and operational context. This includes flexibility in containment strategies (e.g. physical containment, wind weighting, or flight

abort) and the ability to tailor standards to an acceptable level of safety based on the specific characteristics and risk profile of each vehicle.

This flexible approach is built into the licensing process through an ‘issue paper’ which allows applicants to propose alternate means of compliance while ensuring an acceptable level of safety is achieved. This approach promotes regulatory flexibility without compromising public safety.

If case-by-case assessment deems that a FSS is not the best safety outcome (i.e. for returns), what is the procedure to fly without an FSS?

The issue paper process allows for situations where an applicant may not meet FSC standards. Through this process, the Agency works with an applicant to formally assess and mitigate all credible risks associated with operating a vehicle without an FSS. This approach is already in use and is intended to remain a key part of the regulatory framework, supporting flexibility while maintaining an acceptable level of safety with consideration to the FSC’s safety criteria.

Does this mean (when FSS is not best) the applicant should raise these FSS issues prior to application submission?

Yes, if the applicant has assessed that an FSS is not the best safety outcome, then this should be raised early in the application process to ensure no unnecessary delays to the application. The applicant may further discuss any FSS considerations with the Agency’s flight safety team before submitting an application.

Will the inclusion of ‘must’ to replace ‘should’ restrict the ability to assess applications on a case-by-case basis?

The Agency’s issues paper process provides an option for granting waivers in cases where an applicant can demonstrate an acceptable level of safety, even if the specific standards are not strictly adhered to. The Agency will monitor the frequency and nature of issue papers submitted and may consider issuing further guidance or refining the FSC standards to improve the clarity of the regulatory framework.

FSS are often a matter of philosophy - non-destructive vs destructive methods. What is required for an FSS under a non-destructive approach?

There is no difference in the FSC standards for non-destructive or destructive FSS. In either case, an applicant must demonstrate how their FSS meets the FSS requirements in the FSC to mitigate the risks to public safety.

What would constitute a suitable FSS for something like the Varda capsules or Hayabusa probe?

The Agency cannot recommend a FSS for commercial missions, instead it is the applicant's responsibility to demonstrate suitability of the proposed system.

It should be noted that the update to FSC 3.5.4 states that: "*The flight safety system must be operable throughout all phases of flight where it is required to mitigate risks to public safety.*" This means that an applicant may justify that a flight abort capability is not required during the powered de-orbit burn if the associated public safety risks can be met without it. The Agency will assess such proposals through the issue paper process, ensuring that safety objectives are met where the FSS standards are not applied.

How did the ASA define the FSS reliability requirement of 0.999 at 95 percent reliability level for both manual and automatic flight termination system? Was the intention to provide a more stringent requirement with respect to previous versions of the FSC?

The Agency adopted the FSS reliability requirement of 0.999 at a 95% confidence level to align with international best practice, particularly the standards set by the FAA under Part 450.145. If this requirement significantly impacts an applicant, the Agency may consider tailoring on a case-by-case basis.

Is it foreseen to develop guidance on the reliability analysis methodology approved by the Australian Space Agency (ASA)?

Yes, the Agency may provide guidance on reliability analysis in the future. Generally, if an applicant is using an internationally recognised standard, then it is likely to be assessed as suitable.

Do you have a legal definition of a 'habitable object' and the variation of land verses sea (including lakes, rivers etc) for house boats (and also outback 'huts', 'caves', 'mines')?

There has been no formal introduction of the definition of 'habitable object' in the FSC. The Agency will look to include this definition along with the COLA standards in the upcoming update. For clarification, the intent is to protect space objects that are inhabited by humans, which in 2025 is typically either the International Space Station or the Tiangong Space Station (noting that humans may also be present for short-term missions).

Will the term ‘inhabitable object’ be defined in the updated FSC?

Yes, as mentioned above, it will be included.

Does the change from ‘asset with catastrophic impact’ to ‘critical infrastructure asset’ potentially result in built-up areas not being considered (as these are not critical infrastructure)?

No, built-up areas must be considered as part of the Maximum Probable Loss (MPL). The change to Critical Infrastructure Asset streamlines the requirement down to a commonly agreed list of assets that need to be protected.

Is there a broader intention to align the critical infrastructure reference to the Security of Critical Infrastructure (SOCI) regime?

Yes, the FSC is aligned with Section 9 of *SOCI Act 2018*.

Why is the ‘critical infrastructure’ risk threshold comparatively high compared to the FAA's part 450.101 (1e-6 vs 1e-3/4)?

The Agency is aware of this difference in risk threshold and is investigating the possibility of reducing it in the future.

Does the ASA intend to align with international best practice, or will there be areas where the ASA will develop standards that diverge?

The overall intent of the Agency is to align with international best practice, only where it is appropriate in the Australian context. The Agency tries to maintain strong engagement with the sector to ensure the impact of the standards being applied are the best fit for Australia.

Do you feel these changes will increase or decrease the time it takes to obtain a launch permit?

The intent of the changes is to improve transparency, which is expected to enhance predictability for applicants and reduce processing time for applications. The key benefit of these changes is to provide the sector with clear, upfront criteria that support more efficient application planning and compliance. As part of the Agency’s commitment to continuous improvement, the Agency is further planning to release more detailed guidelines and advisory circulars that will clarify expectations and further streamline the regulatory process.

Could you provide preliminary information about the next round of changes to the FSC (version 4.1)?

The Agency is interested in introducing common airspace and maritime standards for the next update to the FSC.

Will the slide pack from the information session be available to the public?

Yes, you can download the slide pack via Consultation Hub -
<https://consult.industry.gov.au/flight-safety-code-updates-sept-2025>