

## **DSSP Glossary**

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### **Acceptable Means of Compliance**

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Information published by the Defence Space Safety Regulator to identify a means of meeting one or more requirements of the DSSR. Regulated entities are required to either comply with Acceptable Means of Compliance (AMC) or propose an Alternative Means of Compliance (AltMoC) to the Defence Space Safety Regulator. Any such proposal will be subject to assessment by the Defence Space Safety Regulator to determine whether the approach is compliant with the DSSR.

### **Accident**

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An accident involving a space object occurs if a person dies or suffers serious injury as a result of the operation of the space object.

### **Agent (of the Commonwealth)**

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A person who is authorised by the Commonwealth to conduct space activities on behalf of the Commonwealth and who has consented to perform that role.

### **Airspace**

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The zone next to the earth consisting of atmosphere capable of sustaining flight.

### **Alternative Means Of Compliance**

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An alternative to an Acceptable Means of Compliance (AMC) or a means of complying with a requirement for which no AMC exists. The entity proposing the Alternative Means of Compliance (AltMoC) must demonstrate to the Defence Space Safety Regulator that it satisfies the regulation.

### **Applicant**

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An individual or entity seeking a Space Safety Authorisation (SSA) or other approval from the Defence Space Safety Regulator.

### **Assets with Catastrophic Potential**

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Assets for which space object or debris impact could initiate a catastrophic chain of events that could produce many casualties.

### **Australian Territory**

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Means the following:

- the territory of Australia and of each external Territory
- the territorial sea of Australia
- the waters of the sea on the landward side of the territorial sea of Australia, but not within the limits of a State or internal Territory

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## Defence Space Safety Program Manual – Glossary

- the territorial sea of each external Territory
- the waters of the sea on the landward side of the territorial sea of each external Territory, but not within the limits of the external Territory.

### **Casualty**

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A serious injury or worse, including death, for a human.

### **Certification**

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The total casualty expectation from a launch or return.

### **Condition**

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A condition on a Space Safety Authorisation is a specific requirement or limitation that must be met or followed by the individual or entity granted the authorisation, in order to maintain its validity.

### **Configuration**

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The functional and physical characteristics of existing or planned hardware, firmware, software or a combination thereof, as set forth in technical documentation (which includes specifications, standards and drawings) and ultimately achieved in a product.

### **Configuration Management**

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A management process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design and operational information throughout its life.

### **CubeSat**

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A class of nanosatellites that use a standard size and form factor. The standard CubeSat size uses a 'one unit' (or 1U) measuring 10×10×10 cms and is extendable to larger sizes.

### **Delegate of the Safety Authority**

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An individual, external to the Defence Aviation Safety Authority, who has been formally assigned a regulatory responsibility and is considered an agent of the Defence Space Safety Regulator when exercising that delegation. The individual may be external to Defence.

### **Design for Demise**

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Design philosophy that aims to minimise the number of components likely to survive re-entry at the end of the spacecraft's life.

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**Ephemeris**

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A tabulation of computed positions and velocities (and/or various derived quantities such as right ascension and declination) of an orbiting body at specific times.

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**General Public**

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Includes all people that are not essential to the specific space mission or are not informed personnel. This definition applies to all people regardless of whether they are in some mode of transportation (such as airplanes, ships, buses and crewed spacecraft), are within a structure, or are unsheltered.

*Note: General Public may, depending on the space mission, include civilians, astronauts, Defence personnel and/or foreign military personnel.*

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**Geosynchronous Orbit (GEO)**

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An orbit around Earth at an average altitude of 35,785 km.

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**Guidance Material**

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Guidance Material (GM) provides additional information to assist the application of the requirement and/or explain the AMC.

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**Ground Segment**

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(see Space System - Ground Segment)

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**Hazard**

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A potential source of casualty or loss.

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**Incident**

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An incident is an occurrence associated with the operation of a space object that affects or could affect the safety of the operation of the space object or that involves circumstances indicating that an accident nearly occurred.

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**Individual Risk**

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The risk to a single person exposed to a launch or return, or a series of launches or returns

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**Informed Personnel**

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Personnel not directly involved in the launch/operation/return of the space object; however, they are reasonably informed of the space activity.

*Note: Depending on the space activity, Informed Personnel may include Defence personnel and/or foreign military personnel and/or civilians. Examples include other range users attending daily range conferences/mass air briefs and/or personnel reasonably informed by sentries or signage of the space activity.*

## **Launch**

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Launch of a space object means to launch the whole or a part of the object into an area beyond the distance of 100 km above mean sea level, or attempt to do so.

## **Launch facility**

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A facility (whether fixed or mobile) or place specifically designed or constructed as a facility or place from which space objects can be launched, and includes all other facilities at the facility or place that are necessary to conduct a launch.

## **Launch and Early Orbit Phase**

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Encompasses the time immediately after launch until the satellite is safely positioned in its designated orbit.

## **Launch Sequence**

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The launch sequence commences when the payload and launch vehicle arrive at the launch site and when any pre-flight ground operation at the launch site meets all of the following criteria:

- is closely proximate in time to flight, and
- entails critical steps preparatory to initiating flight, and
- is unique to space launch, and
- is inherently hazardous ie when hazardous pre-flight operations commence at a launch site that may pose a threat to personnel.

## **Launch Service Provider**

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A company or organization that provides the launch vehicle, associated systems, and services to deliver a spacecraft or other payload into space or a specific orbit.

## **Launch Vehicle**

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Means any technology designed to project objects into space or near to space, including expendable launch vehicles and reusable launch vehicles.

## **Launch Vehicle Payload**

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A Launch vehicle payload is an object that a person undertakes to place in outer space by means of a launch vehicle, including components of the vehicle specifically designed or adapted for that object.

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### **Launching State**

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Means:

- a State which launches or procures the launching of a space object
- a State from whose territory or facility a space object is launched.

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### **Liability**

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Means the Convention on International Liability for Damage Caused by Space Objects, done at London, Moscow and Washington on 29 March 1972, as amended and in force for Australia from time to time.

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### **Limitation**

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An action imposed by the Defence Space Safety Regulator which must be undertaken (ie you **MUST DO** something).

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### **Link Segment**

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(see Space System - Link Segment)

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### **Low Earth Orbit (LEO)**

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An orbit around Earth at an altitude between 100 km and 2,000 km.

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### **Medium Earth Orbit (MEO)**

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An orbit around Earth at an altitude between 2,000 km and 35,785 km.

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### **Mission Essential Personnel**

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All persons directly associated with the launch, return or in orbit operation of a space object, or briefed as part of the mission. Mission Essential Personnel (MEP) may, depending on the mission, include civilians, Defence personnel, and/or foreign military personnel. MEP must be aware of the operations, the associated hazards and be essential to the conduct of the launch and/or return task.

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### **Mission-Related Object**

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An object intentionally released from a spacecraft or rocket body during the course of a mission.

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### **Non-Compliance**

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The failure of a plan or procedure to comply with requirements.

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**Occurrence**

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An incident, malfunction, defect, technical defect or exceedance of limitations that endangers or could endanger the safe operation of a space object.

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**Occurrence Reporting**

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The reporting of any failure, malfunction, defect, act, omission or other occurrence which has resulted in or may result in an unsafe condition. The objective of occurrence reporting is to use the reported information to contribute to accident prevention and the improvement of space safety.

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**Orbital Manoeuvre**

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The use of on-board systems to change the orbit of a spacecraft.

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**Outer Space Treaty**

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Means the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, done at London, Moscow and Washington on 27 January 1967, as amended and in force for Australia from time to time.

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**Passivation**

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Refers to permanently depleting, irreversibly deactivating, or making safe all on-board sources of stored energy on the payload capable of causing a break-up.

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**Payload**

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Refers to an object carried by a spacecraft that travels over, or returns from over, 100 km above mean sea level.

*Note: The term 'payload' in the DSSR will always refer to a payload on a satellite, unless specified otherwise.*

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**Payload (on a Launch Vehicle)**

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(see Launch Vehicle Payload)

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**Payload (on a Satellite)**

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(see Satellite Payload)

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**Reasonably Practicable**

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(refer to the Commonwealth Work Health and Safety Act 2011, Section 18)

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**Re-entry**

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Entry of a space object into the Earth's atmosphere.

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**Register (of Space Objects)**

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Means the Register of Space Objects, having regard to the UN Registration Convention and any other international agreement or arrangement relating to the registration of space objects to which Australia is a party.

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**Registration Convention**

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Means the Convention on Registration of Objects Launched into Outer Space, done at New York on 14 January 1975, as amended and in force for Australia from time to time.

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**Regulator**

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References to 'the Regulator' in the Defence Space Safety Regulations mean the Defence Space Safety Regulator.

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**Return**

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Means return the space object from an area beyond the distance of 100 km above mean sea level to Earth, or attempt to do so.

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**Safety Critical**

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Applied to a condition, event, operation, process, or item whose proper recognition, control, performance, or tolerance is essential for safe system operation or use; eg safety critical function, safety critical path, safety critical component.

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**Safety Management System**

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A systematic approach to managing space safety, including the necessary organisational structures, accountabilities, policies and procedures.

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**Satellite**

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A spacecraft with a bus and one or more payloads that orbits around a body in space.

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**Satellite Bus**

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Provides the structure and supporting subsystems – including power, communications, thermal control and attitude/orbit control – to support the payload.

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**Satellite Payload**

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A set of instruments or equipment which performs a user mission

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### **Serious Injury**

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An injury requiring the person to have:

- immediate treatment as an in-patient in a hospital, or
- immediate treatment for: the amputation of any part of their body; a serious head injury; a serious eye injury; a serious burn; the separation of their skin from underlying tissue (such as degloving or scalping); a spinal injury; the loss of a bodily function; a serious laceration.

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### **Shall (Rules Of Interpretation)**

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'Shall' is used in the mandatory requirement, as is 'must'.

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### **Spacecraft**

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Crewed or uncrewed vehicle designed to orbit or travel in space.

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### **Space Debris**

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All non-functional, artificial objects, including fragments and elements thereof, in Earth orbit or re-entering into Earth atmosphere.

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### **Space Object**

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Means:

- an object the whole or a part of which is to go into or come back from an area beyond the distance of 100 km above mean sea level, or
- any part of such an object, even if the part is to go only some of the way towards or back from an area beyond the distance of 100 km above mean sea level.

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### **Space Safety**

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The state in which continuing processes of hazard identification and risk management ensure that risks to the health and safety of personnel arising from space activities are eliminated or otherwise minimised so far as is reasonably practicable (SFARP).

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### **Space Safety Authorisation (SSA)**

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The generic term for any formal notification document/artefact issued in response to an application from the regulated community in accordance with the regulations. SSA includes, but is not limited to, launch, return and payload permits, and launch facility licences.

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### **Space Safety Authorisation Holder**

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The person in a role responsible for the Space Safety Authorisation, accepting the rights and obligations for the space activity.



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**Space Segment**

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(see Space System - Space Segment)

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**Space System**

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A space system is composed of four functional segments (Space Segment, Link Segment, Ground Segment, and User Segment) that provide space-derived services and products.

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**Space System - Ground Segment**

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Comprises ground-based infrastructure and associated services or support mechanisms critical for the functioning of the space system. This encompasses launch facilities and sites used to control and direct satellites and their payloads.

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**Space System - Link Segment**

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Connects the Ground and Space Segments.

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**Space System - Space Segment**

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Consists of the on-orbit elements including spacecraft, either individual or in constellations.

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**Space System - User Segment**

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Consists of users and equipment that receive space-derived services and products directly from assets in the space segment or via a mission operations centre.

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**Telecommand Link**

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Communication link from ground to space by which a spacecraft is commanded.

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**Telemetry Link**

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Communication link from spacecraft to ground over which data generated on the spacecraft is provided to ground.

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**UN space treaties**

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Means the following:

- the Liability Convention
- the Registration Convention
- the Outer Space Treaty
- the Moon and other Celestial Bodies Agreement
- the Astronauts and Objects Agreement.

**User Segment**

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(see Space System - User Segment)