EQUATORIAL LAUNCH AUSTRALIA

ELA Terminology and Definitions

ELA-000031

VERSION 0.5 **DRAFT**

Handling Instruction: COMMERCIAL – IN – CONFIDENCE Information

VERSION APPROVAL

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1 PURPOSE

ELA Terminology and Definitions provides a terminology and definition authority for the ELA business-at-large.

2 SCOPE

This document is intended be used to define and clarify terms and acronyms used across ELA-originated documentation.

3 REFERENCES

Serial	Title	Author	Date
A	AS1940:2017 The storage and handling of flammable and combustible liquids	Standards Australia	2022
B	AS2187.0-1998 Explosives–Storage, Transport and Use: Part 0 Terminology	Standards Australia	1998
C	AS3745:2010 Planning for emergencies in facilities	Standards Australia	2010
D	AS/NZS 3833:2007 The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers	Standards Australia	2007

Serial	Title	Author	Date
E	Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG) ed. 7.8	National Transport Commission	2022
F	Commonwealth of Australia, Flight Safety Code, Canberra: August 2019; available at: space.gov.au.	Australian Space Agency	2019
G	Directorate of Defense Trade Controls, 22 C.F.R. Parts 120-130	US Department of State	2022
H	ELA-000045 ASC Systems Description	Equatorial Launch Australia	2023
I	FAA Overflight Exclusion Zone		
J	International Ammunition Technical Guidelines (IATG) 02.20	United Nations	2021
K	ISO14620-2:2019: Space systems Safety requirements Part 2: Launch site operations	International Standards Organisation	2019
L	ISO9001:2015 Quality Management Systems – Requirements		2015
M	NASA (2018) Technical Handbook, Safety and Mission Assurance Acronyms, Abbreviations, and Definitions. HDBK-8709.22	National Aeronautics and Space Administration	2021
N	Radiation Protection Act 2004 (NT)	NT Government	2016
O	Radiocommunication Act 1992 (Cth)	Commonwealth of Australia	2021
P	Space (Launches and Returns) (General) Rules 2019 (Cth)	Commonwealth of Australia	2019
Q	Space (Launches and Returns) Act 2018 (Cth)	Commonwealth of Australia	2021
R	Waste Management and Pollution Control Act 1998 (NT)	NT Government	2022
S	Work Health and Safety (First Aid in the Workplace) Code of Practice 2015 (Cth)	Commonwealth of Australia	2015
T	Work Health and Safety (National Uniform Legislation) Act 2011 (NT)	NT Government	2020
U	Work Health and Safety (National Uniform Legislation) Regulations 2011 (NT)	NT Government	2023

4 ACRONYMS

Term	Definition
AAPA	Aboriginal Areas Protection Agency
ACMA	Australian Communications and Media Authority
AFB	Air Force Base
ALP	Australian Launch Permit
AIT	Assembly, integration and test
AMBLS	Automatic Meteorological Balloon Launching System

Term	Definition
AMSA	Australian Maritime Safety Authority
AS	Australian Standards
AsA	Airservices Australia
ASA	Australian Space Agency
ASC	Arnhem Space Centre
ASTOS	Analysis, Simulation and Trajectory Optimization Software
ATP	Approval to Proceed
ATW	Approval to Work
AUS	Australia
BOM	Bureau of Meteorology
CASA	Civil Aviation Safety Authority
CDR	Critical Design Review
CIMT	Critical Incident Management Team
CNES	Centre national d' études spatiales / French Space Agency
COLA	Collision On Launch Assessment
CRR	Campaign Readiness Review
CSO	Chief Security Officer
DEAL	Developing East Arnhem Land
DFO	Distant Focused Overpressure
DSP	Defence Services Provider (ITAR)
DDTC	Directorate of Defence Trade Controls (ITAR)
DECO	Defence Export Control Office (ITAR)
DSGL	Defence and Strategic Goods List (ITAR)
EAR	Export Administration Regulations
ECO	Emergency Control Organisation
ECO	Export Control Officer (ITAR)
EED	Electro Explosive Device
ELA	Equatorial Launch Australia
EMR	Electromagnetic Radiation
EO	Explosive Ordnance
EPA	Environmental Protection Agency
ERPC	Emergency Response Planning Committee
FA	First Aid
FAA	Federal Aviation Administration
FAO	First Aid Officer
FHA	Flight Hazard Area

Term	Definition
FOBOT	Fibre Optic Break Out Tray
FMP	Facility Management Plan
FOD	Foreign Object Damage
FSC	Flight Safety Code
FTS	Flight Termination System
FY	Financial Year
GCL	Gumatj Corporation Ltd
GEO	Geosynchronous orbit
GHSP	Ground Hazard Safety Plan
GSE	Ground Support Equipment
HAZCHEM	Hazardous Chemicals
HAZID	Hazard Identification Study
HAZOB	Hazard Observation(s)
HAZOP	Hazard and Operability Study
HCC	Hazard Classification Code
HERF	Hazards of Electromagnetic Radiation to Fuel
HERO	Hazards of Electromagnetic Radiation to Ordnance
HERP	Hazards of Electromagnetic Radiation to Personnel
HIF	Horizontal Integration Facility
HLS	Helicopter Landing Site
HSR	Health and Safety Representative
HV	High Voltage
HVAC	Heating Ventilation and Air Conditioning
ICT	Information and Communications Technology
IHB	Inhabited Building Distance
ILD	Intra-Line Distance
ILL	Impact Limit Lines
ILM	Information Lifecycle Management
ILT	Integrated Launch Team
IMD	Inter-Magazine Distance
IMP	Information Management Plan
IMS	Information Management System
ISMP	Information Security Management Plan
ITAR	International Traffic in Arms Regulations
JSA	Job Safety Analysis
LCC	Launch Control Centre

Term	Definition
LCP	Launch Control Plan
LEO	Low Earth Orbit
LFL	Launch Facility Licence
LHA	Launch Hazard Area
LOA	Letter of Agreement
LOI	Letter of Intent
LOX	Liquid Oxygen
LRR	Launch Readiness Review
LSWG	Launch Coordination and Safety Working Group
LV	Launch Vehicle
LV	Low Voltage
MCC	Mission Control Centre
MRR	Mission Readiness Review
MOU	Memorandum of Understanding
NASA	National Aeronautics and Space Administration
NBN	National Broadband Network
NDR	Non-disclosure Agreement
NEQ	Net Equivalent Quantity
NLC	Northern Land Council
NOTAM	Notice to Airmen
NOTMAR	Notice to Mariners
NT	Northern Territory
PA	Public Address
PB	Process Building
PDR	Preliminary Design Review
PIC	Person in Charge **OR** Pilot in Charge (as relates to Helicopter Operations)
PIF	Payload Integration Facility
PIR	Post Implementation Review
PLDA	Pre-Launch Danger Area
PM	Project Manager
PNG	Papua New Guinea
PRINCE2	Projects in Controlled Environments
PWA	Protected Works Class A
PWB	Protected Works Class B
PTRD	QA
QA	Quality Assurance

Term	Definition
QLD	Queensland
QMP	Quality Management Plan
QMS	Quality Management System
RAS	Risk Appetite Statement
RASM	Recovery and Range (Air Land and Sea) Manager
RCC	Range Control Centre
RF	Radiofrequency
RHA	Risk Hazard Analysis
RMC	Risk Management Committee
RMF	Risk Management Framework
RMP	Risk Management Plan
RMS	Rocket Motor Storage
RSP	Range Safety Plan
SA	South Australia
SCZ	Safety Clear Zone
SIMOPS	Simultaneous Operations
SLC	Space Launch Complex
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SOW	Statement of Work
SQE	Suitably Qualified Expert
SRC	Safety and Retrieval Committee
SSO	Sun-synchronous Orbit
SWMS	Safe Work Method Statement
TAA	Technical Assistance Agreement
TCP	Technology Control Plan
TOR	Terms of Reference
TSA	Technology Safeguards Agreement
TSP	Technology Security Plan
TSWG	Technology Security Working Group
UPS	Uninterruptible Power Supply
U.S.	United States
USML	United States Munitions List
VAB	Vehicle Assembly Building
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions

Term	Definition
WHS	Work Health and Safety
WHSEC	Work Health Safety and Environment Committee
WHSP	Work Health and Safety Plan
WMP	Waste Management Plan

5 GLOSSARY

Term	Definition
6-DOF trajectory simulation	1. Calculates vehicle position, velocity and acceleration translation along three axes of Earth-centred coordinate system and rocket orientation in roll, pitch and yaw. 2. Computes the translation and orientation of the rocket in response to forces and moments internal and external to the rocket including the effects of the input data described above.
Approval to Proceed (ATP)	1. ATP occurs at ASC following the closeout of any LRR action items, typically 1-3 days prior to launch. 2. ATP is the final review prior to launch by the Client and ELA. 3. ATP is required for each mission. 4. After attaining an Authority to Proceed, flight operations may commence.
Approval to Work (ATW)	ELA process and documentation specifying requirements that must be completed and approved before undertaking high-risk work at ASC.
Approver Authority	ELA person(s) issuing Approval to Work authorisation(s) required to conduct high-risk work at ASC.
Assets with catastrophic potential	The potential of debris creating a catastrophic chain of events on particular property.
Authorised Facility	ELA or ASC Facility that has been authorised by the Export Control Officer in accordance with the Technology Control Plan to receive, store and access U.S. Controlled Technology.
Black water [R]	Wastewater and sewage from toilets
Blast Radius	Explosive Ordinance safety area associated with quantity and types of fuel and oxidiser and igniters assembled on the launch pad.
Bulk Storage [H]	The area, tanks, and other containers therein, used to hold energetic liquids for supplying ready storage and, indirectly, run tankage where no ready storage is available.
Campaign Period	A 30 day period of time, as specified in the Mission Plan, in which a Launch is scheduled to occur, and encompasses the lead up time, generally 22-28 days prior Launch Target date. Campaign period encompasses the commencement of preparation of launch until the completion of activities and clean up related to that launch, generally 2 days after launch.
Campaign Readiness Review (CRR)	1. CRR is a boarded review consisting of both ELA and the Client. 2. CRR is held at ASC following the completion of range setup and testing, typically 5 to 7 days prior to launch. 3. The purpose of the CRR is to review preparedness and to plan for all launch operations (ground and flight) to proceed. Entry criteria include arrival of all personnel and hardware at ASC and approval of all relevant plans and procedures. 4. Upon close out of all action items from the CRR, ELA considers that launch operations may commence. 5. The Australian Space Agency (ASA) Launch Safety Officer may also participate in the CRR.
Casualty	Defined as either the serious injury or death of a person exposed to the launch or return.
Casualty expectation	A calculation expressing the collective risk of a casualty occurring (average number of casualties per-launch or return) to the population exposed to the debris hazard.

Term	Definition
Classified Material	Material subject to the relevant national security regulation of any national government.
Client	Or also Launch Client. **See also** Launch Provider.
Cold work	Work that does not introduce a source of ignition.
Collective risk	The total risk to the public from launch. Primary measure of mission risk.
Collision on launch assessment	Collision avoidance risk mitigation method which evaluates the potential risk of collision between the launch vehicle and other orbital objects during the launch phase.
Competent person [U]	An individual who can demonstrate that they have the professional or technical training, knowledge, actual experience, qualifications, and ability to enable to them to: 1. Perform duties at the level of responsibility allocated to them; 2. Understand any potential hazards related to work (including equipment) under consideration; 3. Recognize technical defects or omissions in a task and the adverse implications for health and safety caused by the hazard(s) and/or omission; be able to specify correct actions(s) to mitigate hazards; 4. Be able to specify corrective action(s) to mitigate the hazards.
Confined space [U]	An enclosed or partially enclosed space that: 1. Is not designed or intended primarily to be occupied by a person; and; 2. Is, or is designed or intended to be, at normal atmospheric pressure while any person is in the pace; and, 3. Is, or is likely to be a risk to health and safety from: i. An atmosphere that does not have a safe oxygen level, or ii. Contaminants, including airborne gases, vapours and dusts that may cause injury from fire or explosion, or, iii. Harmful concentrations of any airborne contaminants or engulfment.
Contaminant [R]	a solid, liquid or gas or any combination of such substances and includes 1. noise, odour, heat and electromagnetic radiation; 2. a prescribed substance or prescribed class of substances; and 3. a substance having a prescribed property or prescribed class of properties
Contractor	Person, partnership, company or organisation (e.g. third-party) engaged by ELA to carry out work, including all individual(s) of contractors and sub-contractors. Contractors include those engaged; 1. For construction / capital works projects; 2. For technical service / maintenance, or to provide other contracted services, including non-construction work e.g. cleaners, security; 3. For events management; 4. As consultants (excluding those engaged via professional services).
Controlled area	Three standard deviation dispersion footprint around the nominal impact point for the return of a space object or high power rocket or for scheduled debris. 1. Probability of impact within the controlled area is 0.997.

Term	Definition
	2. Third-party casualty and asset risk safety standards also apply in controlled areas
Consultants	Contractors engaged by ELA to carry out specific works within the remit of professional services.
Countdown window	**See** Launch Window.
Critical Design Review (CDR)	Occurs following the completion of the payload design phase for each payload, and Serves as a status review of the design of the payload and vehicle.
Critical Work Tasks	1. Procedures relating to launch preparations by Launch Providers (Clients), Contractors supporting launch ops or construction or launch testing, 2. Contractors supporting ASC safety or security operation (e.g. EMS, Security) including site support services (cleaning, maintenance, waste removal).
Dangerous Goods [T]	Substances, mixtures or articles that, because of their physical, chemical (physicochemical) or acute toxicity properties, present an immediate hazard to people, property or the environment.
Dangerous incident [T]	Any incident in relation to a workplace that exposes any person to a serious risk resulting from an immediate or imminent exposure to: 1. an uncontrolled escape, spillage or leakage of a substance 2. an uncontrolled implosion, explosion or fire 3. an uncontrolled escape of gas or steam 4. an uncontrolled escape of a pressurised substance 5. electric shock: a. examples of electrical shock that are not notifiable i. shock due to static electricity ii. 'extra low voltage' shock (i.e. arising from electrical equipment less than or equal to 50V AC and less than or equal to 120V DC) iii. defibrillators are used deliberately to shock a person for first aid or medical reasons b. examples of electrical shocks that are notifiable i. minor shock resulting from direct contact with exposed live electrical parts (other than 'extra low voltage') including shock from capacitive discharge c. the fall or release from a height of any plant, substance or thing the collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be design or item registered under the Work Health and Safety Regulations, for example a collapsing crane d. the collapse or partial collapse of a structure e. the collapse or failure of an excavation or of any shoring supporting an excavation f. the inrush of water, mud or gas in workings, in an underground excavation or tunnel, or g. the interruption of the main system of ventilation in an underground excavation or tunnel. A dangerous incident includes both immediate serious risks to health or safety, and also a risk from an immediate exposure to a substance which is likely to create a serious risk to health or safety in the future, for example asbestos or hazardous chemicals.
Defence Article	Any item designated on the United States Munitions List (USML).

Term	Definition
Defence Services	Term in the International Traffic in Arms Regulation (ITAR) and includes: 1. The furnishing of assistance (including training), whether in the United States or abroad, in the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarisation, destruction, processing, or use of Defence Articles; 2. The furnishing of any Technical Data controlled by the ITAR, whether in the United States or abroad; or 3. The provision of military training in the United States or abroad, including by correspondence courses, technical, educational, or information publications and media of all kinds, training aid, orientation, training exercise, and military advice.
Defence Services Provider (DSP)	U.S. export licence form bearing the signature of Directorate of Defence Trade Controls (DDTC) a licence number and issue date.
Delay	1. Unplanned stoppage that may occur at any time during the countdown procedure. 2. An unrecoverable slip of time (in relation to launch time or window).
Delta-v	Measure of the impulse per unit of spacecraft mass
Directorate of Defence Trade Controls (DDTC)	Directorate of Defence Trade Controls in the U.S. State Department, which is responsible for administering the ITAR
Distant focused overpressure	1. Results from a ground explosion from an abort in the launch area. 2. Can result in window breakage to occur up to 30 km from the launch site. 3. Can form a DFO risk that must not exceed acceptable risk standards. 4. Described in detail in International Association for the Advancement of Space Safety book, the Safety Design for Space Operations
Division 1.1 [E]	Substances and articles which have a mass explosion hazard.
Division 1.3 [E]	Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.
Downrange area	A controlled range area characterised by a three-standard deviation (3-sigma) dispersion footprint centred around the nominal Flight Hardware Impact Area(s) as calculated during the Risk Hazard Analysis process. The probability of impact of scheduled debris within this area is 99.7%
Drop zone	Area for the impact of scheduled debris from a space object or high-power rocket. 1. Scheduled debris may include jettisoned booster rockets, rocket stages, payload fairings, nose cone, or other debris which is scheduled to fall to ground as a result of a successful launch. 2. Defined as a three standard deviation footprint that contains 0.997 of all impacts. 3. Drop zones are usually selected to be free of people. 4. Can be on land or on sea. 5. The three-sigma footprint describes the area where the vehicle will land with a 0.997 probability assuming that no major system failure has occurred.
Dual Use	Term used to distinguish Export Administration Regulations - controlled items that can be used both military and other strategic uses and in civil applications from those that are weapons and military related use or design and subject to the controls of the Department of State or subject to the nuclear related controls of the Department of energy or the Nuclear Regulatory Commission

Term	Definition
Emergency [C]	An event that arises internally, or from external sources, which may adversely affect the occupants or visitors in an ELA facility, and which requires an immediate response.
Environment	Being land, air, water, organisms and ecosystems, and includes: 1. The well-being of humans; 2. structures made or modified by humans; 3. the amenity values of an area; and 4. economic, cultural and social conditions
Export Administration Regulations (EAR)	Issued by the United States Department of Commerce, Bureau of Industry and Security (BIS) under laws relating to the control of certain exports, reexports, and activities. Includes regulations relating to 'dual use' controlled items.
Explosives [E]	Class 1 dangerous goods.
Export Control Officer	ELA employee responsible for maintaining details of all current U.S. agreements to which ELA is a signatory. This includes similar export agreements with other countries. The ECO is also responsible for ensuring that all ELA business and support elements comply with the requirements in this TCP.
eWaste	Any electrical or electronic equipment with a power cord or battery that isa no longer fit for its intended purpose, includes fridges, microwaves, mobile phones, computers and fluorescent lights.
Facility	ASC Site Systems, equipment or service made available by ELA to a client for the purposes of launch.
Facility failure	Failure of the launch as a result of any malfunction or problem occurring due to ASC site systems, equipment or services rendered by ELA to the client for the launch.
First Aid [S]	Immediate treatment or care given to a person suffering from an injury or illness until more advanced care is provide or the person recovers.
First Aid Officer [S]	Person who has successfully completed a nationally accredited training course or an equivalent level of training that has given them the competencies required to administer first aid.
Flammable liquid [E]	Liquids, or mixtures of liquids, or liquids containing solids in solution or suspension (e.g., paints, varnishes, lacquers, etc., but not including substances otherwise classified on account of their dangerous characteristics) which give off a flammable vapour at temperatures of not more than 60˚C, closed cup test, normally referred to as the flash point.
Flight hardware impact area	Area in which one or more objects impact.
Flight Hazard Area (FHA)	1. Vehicle and mission dependent area, defined by the flight debris hazard after ignition and vehicle departure from pad. 2. Based on debris spread impact analysis and acceptable risk criteria of the RHA.
Flight safety hazard [F]	The hazards under consideration for launch operations in Australia are the consequences of: 1. debris striking persons either directly as inert debris or as explosive debris, and as overpressure effects in the event of that explosion; and 2. debris striking and triggering a catastrophic chain of events on an asset with catastrophic potential
Flight Termination System (FTS) [H]	Automatic or manual vehicle termination through thrust termination or vehicle detonation

Term	Definition
Foreign	Non-United States for the purposes of U.S. Controlled Technology
Generated materials	Occur during daily operations (i.e. waste water)
Go	Response to a poll in the countdown procedure which indicates the status of the activity meets operational and readiness requirements for launch to proceed.
Grey water	Wastewater from sinks, washing machines, and other kitchen appliances
Hang fire	1. Unexpected delay between the triggering of a vehicle engine and the ignition of the propellant. 2. The delay may be too brief to be noticed but can be up to several seconds and may result in a catastrophic failure under certain circumstances.
Hazard Area [K]	Area associated with a mishap or potential mishap, inside which the consequences are catastrophic or critical.
Hazards of Radiation to Fuel (HERF)	Hazards that concern the inadvertent ignition of fuel vapours by radio frequency-induced arcs during fuel handling operations.
Hazards of Radiation to Ordnance (HERO)	Hazards that concern the inadvertent ignition of explosive ordnance.
Hazards of Radiation to Personnel (HERP)	Hazards that various emitters may pose to personnel.
High-risk work [U]	Work identified as potentially hazardous and may have an inherent risk of danger / injury to persons. Includes: 1. High-risk work as defined in WHS Regulations 2011 (NT) Schedule 3, as being within the scope of a high-risk work licence including: a. High risk construction work b. High risk diving work c. Hazardous work 2. Hazardous launch-related activities determined by ELA
Hold	1. A pause in the countdown procedure used in different conditions based on the requirement. 2. Intentional "HOLD" calls in the countdown procedure to allocate time for certain activities which are predefined. 3. **May also** be called when there is a requirement for additional time to carry out a procedure or bring back deviations inline to defined countdown procedure.
Hot work	Work that involves either the use of the creation of a flame, spark or energy discharge that could act as the ignition source for a fire or explosion.
Ignition Failure	Means the condition following a command to ignite the propulsion system is sent to the launch vehicle whilst still on the launch pad and ignition either does not occur or occurs and is halted prior to main engine ignition.
Impact Area(s)	1. A controlled range area characterised by a three-standard deviation (3-sigma) dispersion footprint around the nominal impact point of scheduled debris as calculated during the Risk Hazard Analysis process. 2. The probability of impact of scheduled debris within this area is 99.7%.

Term	Definition
	See also "drop zone" in the FSC
Impact limit lines	Lines on the surface of the earth defining the maximum permitted divergence of the instantaneous impact point from the planned launch system trajectory. If vehicle exceeds these limits the FTS is to be activated.
Imported materials	Materials brought onto site for construction purposes or for inclusion in general operations
Incident - WHS [T]	WHS incident is determined as any incident or event that is caused in the course of working at an ELA location, including: 1. Work illnesses. 2. Uncontrolled fire and explosions. 3. Disabling injuries. 4. Serious equipment plant or property damage. 5. Dangerous incidents which could have but did not injure any person. 6. Exposures to hazardous substances or circumstances. 7. Minor injuries. 8. Any other serious incident that could put employees or plant at risk. **See also** Notifiable incident **See also** Dangerous incident
Individual risk	The highest risk to any single person exposed to the launch. Does not consider the number of people exposed to the hazard. Secondary measure of mission risk
Individual risk isopleth	Individual risk isopleths are contour lines on a map connecting places of equal risk to define the probability of impact on a person exposed to a debris hazard, with the isopleth measure being the casualty expectation for a particular scenario. For example, the Flight Safety Code requires the mapping of $1x10^{-6}$ individual risk isopleths to demonstrate that launch safety standards are met.
Information	The synthesis, analysis and interpretation of data enabling ELA to make better-informed business decisions. Information is distinct from data, which is created or collected.
Information assets	All information relevant to ELA's business function, including captured and tacit knowledge of employees, customers or business partners, data and information stored in databases, messages, e-mail, workflow content and spreadsheets, information stored in digital and paper documents, purchased content and public content from the Internet or other sources.
Information availability	Refers to allowing authorised persons to access information for authorised purposes at the time they need to do so.
Information confidentiality	Refers to the limiting of access to information to authorised persons for approved purposes.
Information integrity	Refers to the assurance that information has been created, amended or deleted only by the intended authorised means and is correct and valid.
Information lifecycle management	The consistent management of information from creation to final disposition. Enabled through people, process, and technology and drives improved control over information as it moves through the various lifecycle stages.
Information management	A collection of capabilities delivered through people, processes and technology to ensure the confidentiality, integrity, availability, quality and security of our information assets throughout their life cycle.

Term	Definition
Inhabited Building Distance [J]	The minimum permissible distance between potential explosive sites and non-associated exposed sites that requires a high degree of protection from an explosion.
Integrated Launch Team	Organisational unit for a launch campaign inclusive of ELA and client staff.
Intentional Ignition	1. For a launch is defined in the mission plan for that launch, or if not defined in the Mission plan, means the moment prior to launch when a command to ignite the Launch Vehicle's propulsion system is sent to the Launch Vehicle, other than a command that is sent as part of a test
International Traffic in Arms Regulations (ITAR) [G]	1. Rules administered by the Directorate of Defense Trade Controls, U.S. Department of State, 22 C.F.R. Parts 120-130, pursuant to the AECA as amended from time to time. 2. Relates to any company that manufactures, sells, or buys items from an organization on the United States Munitions List (USML) must meet a set of rules that impose requirements on how the related information is stored and processed.
ITAR Material	Refers to U.S. Controlled Technology.
Isolation	The process of disconnecting or making equipment safe to work on by the removal of all energy sources, to ensure that an accidental release of hazardous energy does not occur.
Job Safety Analysis	Document outlining work activities to be carried out at a workplace into 1. logical job steps, 2. identification of hazards associated with each step. and 3. controls for those hazards.
Landing site	An area for the planned return to the earth of a space object or a reusable launch vehicle, including high power rockets.
Launch	Means a space rocket launch conducted pursuant to a Mission Plan, commencing at intentional ignition and which is deemed to be completed when followed by and at the moment of lift-off or launch failure.
Launch anomaly	An unexpected event that is outside of certified design/performance specification limits or expectations.
Launch campaign	1. Planned set of activities that ELA will carry out over a period of time in order to deliver a successful launch from the ASC site. 2. Client(s) will be involved in a subset of these activities throughout the campaign. 3. Campaign activities will be altered as per the client and their launch vehicles requirements.
Launch Hazard Area (LHA) [I]	Non-vehicle specific area of any flight debris hazard after ignition and vehicle departure from pad. Based on FAA Overflight Exclusion Zone.
Launch mission	The assigned task for the launch vehicle which is delivered through trajectory and Launch vehicle performance.
Launch pad system [H]	**See** "Launch Pads" in ASC System Description
Launch Period	The span of days (collection of launch windows) that the rocket can launch within to reach its intended orbit.
Launch Provider	Manufacturer, provider and / or operator of rickets providing launch operations and services to payload/space vehicle companies

Term	Definition
Launch Readiness Review (LRR)	1. LRR occurs following the assembly of the Launch Vehicle and Payload on the launch pad, typically 4 to 7 days prior to launch. 2. LRR is the final payload / vehicle readiness review prior to flight. A LRR will be conducted for each mission.
Launch vehicle [F]	Any technology designed to project objects into space or near to space, including expendable launch vehicles, reusable launch vehicles, high power rockets and all technologies requiring a launch permit or high power rocket permit.
Launch vehicle accident [Q]	Involving a space object or high power rocket occurs if: 1. a person dies or suffers serious injury as a result of the operation of the space object or high-power rocket; or 2. the space object or high power rocket is destroyed or seriously damaged or causes damage to other property (other than in the circumstances prescribed by the rules).
Launch vehicle failure	Failure, destruction, loss of control or destruction by any means following lift off from the launch pad until the payload is separated from the launch vehicle or any of its constituent stages, not relating to any serviced rendered by ELA.
Launch vehicle incident [Q]	Occurrence associated with the operation of a space object or high power rocket that: 1. affects or could affect the safety of the operation of the space object or high power rocket or 2. involves circumstances indicating that an accident nearly occurred.
Launch Window	Indicates the time frame on a given day in the launch period that the rocket can launch to reach its intended orbit. Usually T-0 aimed for when this Launch Window is opened.
Licence	Any Australian or U.S. export licence needed to export controlled technology including ITAR Material.
Lift-off	Is deemed to have occurred: 1. If mission control receives a record of any movement of the Launch Vehicle in the intended direction of travel (as specified in the Australian Launch Permit, High Power rocket Permit, or CASA approvals, whichever is relevant); and 2. At the moment that movement first occurs
Mission	Launch and subsequent activities related to the Launch and the intended space flight activity for Launch Vehicle and payload as specified in a Mission Plan
Mission Essential Personnel	Those persons assigned and necessary to conduct launch or supporting procedures to support and complete a launch.
Mission Plan	1. Mission Summary and Detailed Mission Plan as provided by Launch Client, and approved in writing by ELA, and in accordance with the ASA approved ALP, as each may be varied from time to time by written agreement of the parties. 2. Will contain description of any services, consumables, Licensed Software and Supplied Hardware to be supplied by ELA and if outside those specified in this contract may attract Additional Fees to be paid therefor by the Client, along with the applicable payment schedule. 3. May also contain approved variations/modifications to the Spaceport Services listed on the Schedule of Services set forth in ELA Spaceport Services Agreement, but only if specifically approved in writing and signed by ELA.
Mission Readiness Review	1. MRR occurs following the completion of payload integration and testing. 2. MRR serves as a last status review of the payload and vehicle prior to shipment.

Term	Definition
Mission Failure	Either: 1. Launch Vehicle Failure following lift off from the launch pad OR 2. Failure of the Launch Vehicle to achieve and/or maintain defined parameters or objectives as detailed in the formal and detailed Mission Plan.
Native applications or platforms	Include those dedicated to specialised functions within ELA operations and outside of the SharePoint environment.
Near Miss [T]	**See** Dangerous incident.
Neighbouring Operations	Authorised safety, security, or other critical work tasks being performed at ASC outside of an active hazard safety zone.
Neighbouring Operations Personnel	Personnel conducting safety, security, or other critical work tasks at ASC outside of an active hazard safety zone.
No Go	Response to a poll in the countdown procedure which indicates the status of the activity does not meet operational and readiness requirements for launch to proceed.
Notifiable incident [T]	Legislated WHS incident notifications of: 1. the death of a person 2. a 'serious injury or illness', or 3. a 'dangerous incident' arising out of the conduct of a business or undertaking at a workplace. 'Notifiable incidents' may relate to any person – whether an employee, contractor or member of the public.
Operations Personnel	Authorised personnel conducting safety, security, or other critical work tasks being performed at ASC.
Payload	Object or Space Vehicle planned to be carried by the rocket / launch vehicle that is separate from the launch vehicle itself (whether or not it is ultimately separated from the launch vehicle) for the purpose of the mission undertaken from or in direct association with the Spaceport, as further described in the Mission Plan (which launch vehicle and mission will be understood to refer to the Launch Vehicle and the Mission unless the context requires otherwise).
Performing Authority	Person(s) responsible for conducting the work specified in Approval to Work requests and any other documentation such as a SWMS.
Personal information	Any information or opinion about a particular individual or a person who could be easily identified.
Personnel	Directors, officers, employees, agents, consultants and contractors who are natural persons, at any tier
Pre-launch danger area (PLDA)	1. A safety area set up around the launch pad during the launch vehicle's set-up 2. and / or 3. Integration on the pad to protect non-essential personnel from hazards associated with the launch vehicle and/or payload that are not linked to its propellant.

Term	Definition
Principal contractor [U]	Principal contractor has specific duties outlined in the WHS legislation, in addition to requirements set by ELA.
Probability of impact isopleths	Probability of impact isopleths are contour lines on a map connecting places of equal probability of impact. Probability of impact isopleths show the geographic distribution of impact probability on a map. The isopleth areas will change with the area of the people or place at risk, with the size of the debris fragments, and with the number of debris fragments
Process [L]	A set of interrelated or interacting activities that convert inputs into outputs and accomplish a specific organizational goal. These activities require allocation of resources such as people and materials.
Process building [B]	A building on premises licensed for the manufacture or storage of explosives, other than for immediate use, in which any explosive is manufactured, or any ingredient of explosive is used in a manufacturing process.
Process customer [L]	The receiver of the ouptputs of a process (data, information, goods, or services). The customer : 1. defines what outputs are expected according to its needs, 2. may be external to the business or 3. internal to the organisation
Process inputs [L]	1. Specified requirements needed to be put into a process in order to start the process. 2. Inputs will be processed by a process or activity.
Process measurement [L]	Determining a physical measurement of processes and their outputs based on data.
Process monitoring [L]	A continuous, sequential, and periodic examination of processes and its outputs.
Process outputs [L]	Specified expected or intended result of a process.
Process owner [L]	An organizational function responsible for a process or subprocesses.
Process supplier [L]	The deliverer of inputs to a process (data, information, goods, or services). Maybe an 1. external supplier delivering goods, services or materials or 2. internal supplier (organisational unit) delivering inputs to a process.
Protected works [B]	**Class A:** Public street, road or thoroughfare, railway, navigable waterway, dock, wharf, pier or jetty, marketplace, public recreation and sports ground or other open place where the public is accustomed to assembling, open place of work in another occupancy, river-wall, seawall, reservoir, water main (above ground), radio or television transmitter, main electrical substation, private road which is the principal means of access to a church, chapel, college, school, hospital or factory **Class B:** Dwelling house, public building, church, chapel, college, school, hospital, theatre, cinema or other building or structure where the public is accustomed to assembling, shop, factory, warehouse, store, building in which any person is employed in any trade or business, depot for the keeping of flammable or dangerous goods, major dam
Public	All people not declared mission essential or neighboring operations personnel
Public traffic route distance [J]	The minimum permissible distance between a potential explosion site and public traffic routes, which is such that the ignition or explosion of explosives at the potential explosion site will not cause intolerable danger to the occupants of vehicles at an exposed site.
Radiation [N]	Radiation is ionising radiation or non-ionising radiation.

Term	Definition
	1. Ionising radiation is electromagnetic or particulate radiation capable of producing ions directly or indirectly, but does not include electromagnetic radiation of a wavelength greater than 100 nanometers. 2. Non-ionising radiation is electromagnetic radiation of a wavelength greater than 100 nanometres.
Radiation apparatus [N]	An apparatus that: 1. produces radiation when energised; or 2. is, if assembled or repaired, capable of producing radiation when energised.
Radiation source [N]	1. A thing that may emit ionising radiation 2. A thing prescribed by the Regulations [of the Radiation Protection Act 2004] that may emit non-ionising radiation. 3. Can be radioactive material or 4. A radiation apparatus.
Radioactive material [N]	1. spontaneously emits ionising radiation as a consequence of nuclear transformations; and 2. has or exceeds the activity or activity concentration prescribed by the Regulations [of the Radiation Protection Act 2004].
Radiocommunication [O]	1. radio emissions; or 2. reception of radio emission; for the purpose of communicating information between persons and persons, persons and things or things and things.
Radiocommunication device [O]	1. a radiocommunications transmitter other than a radiocommunications transmitter of a kind specified in a written determination made by the ACMA for the purposes of this paragraph; or 2. a radiocommunications receiver of a kind specified in a written determination made by the ACMA for the purposes of this paragraph.
Radiocommunication receiver [O]	1. anything designed or intended for use for the purposes of radiocommunication by means of the reception of radio emissions; or 2. anything (other than a line within the meaning of the *Telecommunications Act 1997*) designed or intended to be ancillary to, or associated with, such a thing for the purpose of that use; or 3. anything (whether artificial or natural) that is designed or intended for use for the purpose of radiocommunication by means of the reflection of radio emissions and that the ACMA determines in writing to be a radiocommunications receiver for the purposes of this Act [Radiocommunications Act 1992].
Radiocommunication transmitter [O]	1. a transmitter designed or intended for use for the purpose of radiocommunication; or 2. anything (other than a line within the meaning of the *Telecommunications Act 1997*) designed or intended to be ancillary to, or associated with, such a transmitter for the purposes of that use; or 3. anything (whether artificial or natural) that is designed or intended for use for the purpose of radiocommunication by means of the reflection of radio emissions and that the ACMA determines in writing to be a radiocommunications transmitter for the purposes of this Act
Radio emission [O]	Any emission of electromagnetic energy of frequencies less than 420 terahertz without continuous artificial guide, whether or not any person intended the emission to occur.

Term	Definition
Radiofrequency electromagnetic radiation [N]	Radiofrequency (RF) electromagnetic radiation (EMR): 1. is the transfer of energy by radio waves. 2. lies in the frequency range between 100 kilohertz (kHz) to 300 gigahertz (GHz). 3. is non-ionising radiation.
Range Control Systems [H]	The Range Control System provides for range situational awareness and the control of the use of the range. It consists of an airspace surveillance radar, a launch tracking radar, flight termination system, and the Range Control Centres.
Ready Storage [H]	Storage that is relatively close to the launch pad and is used for fuelling operations prior to launch.
Rest Storage [H]	1. Temporary parking location for trailers, tank cars and portable hold tanks, used for topping operations when those units are not engaged in the operation; and 2. For such vehicles in the event that they are unable to empty their cargo directly into the designated storage area.
Risk	
Roll back	1. Reverting to an earlier time step in countdown procedure. 2. Undertaken when there is requirement to repeat a part of the process to re-achieve a readiness call (Go/No Go). 3. **ELA may also** use as reference to restart the countdown procedure from the beginning under certain circumstances.
Routine work	Work which: 1. Does not vary in its execution and reoccurs within a prescribed and repeated cycle; and 2. Is conducted in areas in which the work is normally conducted; 3. Is prescribed by an operating procedure; 4. Is conducted by the personnel trained to perform the work in accordance with the procedure.
Safety Clear Zone [H]	The area defined by the mass explosion hazard of a fueled launch vehicle on the launch pad
Safe Work Method Statement [U]	A document that sets out the high-risk construction or energized electrical work activities to be carried out at a workplace, the hazards arising from these activities and the measures to be put in place to control the risks.
Scope of Process	defines precisely where a process starts and ends, what its related inputs and outputs are, and which activities are included and excluded.
Scrub	1. Used when a launch attempt is called off on the specific day. 2. Scrub may be due to a system technical fault or critical parameter being out of specified range, resulting in cancellation of the scheduled launch.
Segregation [D]	The isolation of incompatible goods from each other within the [dangerous goods] store.
Separation [D]	The isolation of dangerous goods from protected places, on-site protected places, boundaries and other dangerous goods.
SharePoint	The dedicated ELA repository for information assets.

Term	Definition
SimOps	Separate tasks or works that take place at the same time with the potential to impact each other.
Single fault tolerant	1. System will continue to operate even after a single fault occurs in the system. 2. Incorporate one level of redundancy. Required to prevent potential single point failures
[redacted]	[redacted]
Safety Clear Zone (SCZ)	The area defined by the mass explosion hazard of a fueled launch vehicle on the launch pad. For persons in unprotected areas or buildings, the SCZ corresponds to the Protected Works Class B (PWB) distance for the fueled rocket motor's equivalent amount of TNT. For persons travelling in vehicles on ASC roads, the SCZ corresponds to the Public Traffic Route Distance (PTRD) for the fueled rocket motor's equivalent amount of TNT.
Space Launch Complex (SLC)	1. The complex allocated to launch client for the purposes of providing access to space for its payload customers and comprising at least: a. One primary launch pad b. Horizontal Integration facility (HIF) with i. clean rooms, ii. materials handling equipment, iii. workshops, iv. offices, and v. storage area. 2. Each SLC will be a. security monitored, b. fenced, and c. access controlled to be ITAR compliant. 3. An SLC can be either multi-user or dedicated to each user.
Surplus or waste materials	Arise from either materials brought onto ASC or generated within ASC
Technical Data	Refers to: 4. Information required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of Defense Articles. a. Includes information in the form of blueprints, drawings, photographs, plans, instructions and documentation; 5. Classified information relating to Defence Articles and Defense Services; 6. Information covered by an invention secrecy order; and software directly related to defense articles.

Term	Definition
	a. Includes technical data recorded or stored in any physical form, models, mockups or other items that reveal technical data directly relating to items designated in the USML. b. Does not include basic marketing information on function or purpose or general system descriptions. (Defined in ITAR paragraph §120.6.)
Terminated Ignition	1. The deliberate or accidental termination of the launch vehicle engine/rocket motor following ignition, intentional or otherwise; 2. An Intentional Ignition that is not followed by Lift-Off for whatever reason; and 3. Is deemed to occur at the moment the launch pad is declared safe by the Launch Safety Officer as defined by the Act (or in the case of a Launch under a High Power Rocket Permit or an approval issued by the CASA, the person performing a similar launch safety function).
Transmitter [O]	1. anything designed or intended for radio emission; or 2. any other thing, irrespective of its use or function or the purpose of its design, that is capable of radio emission.
Trigger debris	Debris that can trigger a catastrophic chain of events on particular property on impact. Debris for which impact could initiate a chain of events that could produce many casualties.
Unproven vehicle [F]	A launch vehicle that has not achieved five consecutive missions without a failure that could pose a hazard to public safety or property.
Up-Range Safety Area (URSA)	1. A controlled range area consisting of a practical boundary encompassing the LHA and part of the FHA in the uprange area around ASC. 2. URSA area is intended to facilitate range management and clearance with consideration of local roads, access points, and other natural or man-made features.
Visitor	General public accessing ASC but not to conduct work.
Vulnerable Facility [B]	A category of facility that includes, but is not restricted to, the following: 1. Multistorey buildings, e.g., above 4 storeys 2. Large glass fronted buildings of high population. 3. Health care facilities, childcare facilities, schools. 4. Public building or structure of major historical value. 5. Major traffic terminals, e.g., railway stations, airports. 6. Major public utilities, e.g., gas, water, electricity works