

Space Activities Act 1998

GUIDELINES FOR APPLICANTS

CHAPTER 5

AUTHORISATION OF RETURN OF OVERSEAS LAUNCHED SPACE OBJECT

Version 1.4

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1 Introduction

1.1 Space Activities Act 1998

An Authorisation of Return of an Overseas Launched Space Object (AROLSO) is issued under the *Space Activities Act 1998* (the Act). The Act sets out a regime to license space launch activities from Australia, space return activities to Australia, and launches of Australian-owned payloads (or parts thereof) from overseas sites.

The Act aims to ensure that the probability of harm to public health and safety or damage to property arising from space activities is as low as reasonably practicable. The Act also ensures Australia meets certain of its obligations under the five United Nations Space Treaties and under specified space cooperation agreements.

The Space Activities Regulations 2001 (the Regulations) provide further detail about the licensing regime, in particular material to be submitted with an application. These Guidelines provide additional explanation and advice for applicants for authorisation of return of an overseas launched space object.

1.2 Role of SLASO

The Space Licensing and Safety Office (the SLASO), in the Department of Innovation, Industry, Science and Research (the Department) is responsible for administering the Act, its Regulations, and Guidelines. Applicants wishing to obtain authorisation to return to a place in Australia a space object launched outside Australia need to apply to the SLASO, who will assess the application and make a recommendation to the Minister for Innovation, Industry, Science and Research (the Minister) or the Minister's delegate.

The SLASO will provide guidance on the information and documents an applicant must submit to obtain an AROLSO. It is, however, the responsibility of the applicant to obtain the evidence required in the preparation of their application. The SLASO will not prepare material for these approvals. The provision of guidance by the SLASO in relation to the preparation of an AROLSO application will not guarantee that the Minister or the Minister's delegate will grant the authorisation being sought. Furthermore, despite the provision of any guidance, the SLASO will not accept any liability in relation to the content of the application—the content will remain the responsibility of the applicant.

1.3 Authorisation of Return of Overseas Launched Space Object (AROLSO)

The return (or a particular series of returns) to a place anywhere in Australia of a space object launched outside Australia requires an AROLSO. The AROLSO may take the form of a written permission or an agreement. (The return to Australia of a space object launched from Australia may be authorised by the launch permit granted in respect of the launch.)

An AROLSO will be issued in respect of the return of a space object, or a series of returns of space objects, to Australia where the applicant is able to satisfy the

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Minister or the Minister's delegate about a range of criteria set out in the Act and the Regulations.

An application form is to be submitted as the primary trigger for an AROLSO and should be accompanied by the documents described in Section 4 of these Guidelines.

The AROLSO will remain in force for the period of time specified in the authorisation. The AROLSO may specify that the period during which it remains in force ends on the occurrence of an event rather than at a specified time. The Minister or the Minister's delegate may extend the period for which the AROLSO remains in force, at any time while the AROLSO is still in force.

Conditions will be attached to the AROLSO to ensure compliance with those arrangements upon which the approval was based.

1.4 Launching State and Regulation by Launching States

Space activities requiring an AROLSO are those in which it is proposed to return to a place in Australia a space object launched outside Australia (see Section 2.1 for a more detailed explanation). The (non-Australian) country from which the launch takes place will be a launching State for the purposes of the *UN Convention on International Liability for Damage Caused by Space Objects*. There may also be other launching States. The return of a space object to a place in Australia does not, of itself, make Australia a launching State. Australia would only be a launching State in relation to a launch from outside Australia if an Australian national were to conduct the launch or procure the launch.

A (non-Australian) country that is a launching State may have its own system of regulation for space activities carried on from its territory or by its nationals. Such regulation may include consideration of the return, but such regulation will not of itself exempt the person carrying out the return to a place in Australia from the requirement to have the return authorised under the Act. Where there is regulation of the return by the launching State, the SLASO will work with the applicant and the regulatory authorities of the launching state where appropriate to assess the extent to which documentation may satisfy both the AROLSO requirements and the regulatory requirements of the (non-Australian) launching State.

In particular, the Act provides for the Minister or the Minister's delegate, in deciding whether to grant an AROLSO, to have regard to any agreement or arrangement between Australia and any country that is a launching State under which that country assumes liability, and indemnifies Australia, for any damage that the space object may cause and the terms of that agreement or arrangement.

Moreover, an AROLSO granted under the Act may take the form of an agreement under which a return is conducted. Such an agreement may include, for example, appropriate regulation by the launching State.

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1.5 Fees

The Regulations specify a \$10,000 application fee for an AROLSO payable when the application is made, except if the applicant is an approved educational and scientific organisation under section 8A of the Act, in which case the fee is \$100.¹

1.6 The Safety Regime

Preserving the safety of the public, property and major national assets underpins the Australian space safety regime. The safety regime is based on an approach which places the onus on the person carrying out the return to demonstrate to the Minister or the Minister's delegate that the risks associated with the return are as low as reasonably practicable. This will be demonstrated through the collection of documents accompanying the application, including a risk hazard analysis demonstrating compliance with the launch safety standards set out in the Flight Safety Code. For further guidance, see Chapter 1, *Australian Space Safety Regime Overview*, of the Guidelines.

For guidance on the expected documents to be provided, see Section 4 of these Guidelines.

¹ Note that a specific declaration under section 8A of the Act is required. For further information, see the Approved Educational and Scientific Organisations Guidelines, or contact the SLASO.

2 Overview of an AROLSO

2.1 Who Should Apply?

An AROLSO is required by a person (company or individual) proposing to return to any place in Australia a space object launched from outside Australia. The only exceptions are:

- persons that have an Exemption Certificate for the return; or
- the Australian Government or a person acting as an employee or agent of the Australian Government; or
- returns by an international organisation established under an agreement between Australia and another country for the sole or principal function of carrying on activities in outer space and where the return is conducted in accordance with the agreement; or
- returns owing to accident, distress, emergency or unintended landing, having regard to the *UN Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space*.

The return to Australia of a space object launched from Australia may be authorised by the launch permit issued in respect of the launch and return.

2.2 Purpose

The AROLSO is intended to ensure: that the return is competently carried out; that adequate insurance arrangements are in place; that the probability of harm or damage is as low as reasonably practicable; that the return does not involve a weapon of mass destruction; that Australia's national security, foreign policy and international obligations are not compromised; that environmental issues are addressed and that the return is subject to appropriate conditions.

An AROLSO is issued in respect of the return of a specific space object (or a series of specific space objects) that is launched or proposed to be launched from a specific launch facility outside Australia.

2.3 Criteria for Assessment

The Minister or the Minister's delegate may grant an AROLSO once satisfied, through the provision of evidence by the applicant, that the return will meet all the criteria set out in the Act and Regulations. In short, these are:

- (a) competence to carry out the return;
- (b) satisfaction of the insurance/financial requirements;
- (c) the probability of the return causing substantial harm to public health or public safety or causing substantial damage to property is as low as reasonably practicable;
- (d) the space object does not contain a nuclear weapon or weapon of mass destruction of any other kind;
- (e) there are no reasons relevant to Australia's national security, foreign policy or international obligations for not granting the approval;

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- (f) all necessary environmental approvals under Australian law and an adequate environmental plan.

The applicant must obtain the Minister's written permission for the space object to be returned to contain any fissionable material.

If the return involves the importation into Australia of flora, fauna or any biologically active substances, quarantine issues will also be a key focus of attention.

The Minister or the Minister's delegate may, in deciding whether to grant an AROLSO, have regard to any agreement or arrangement between Australia and any country that is a launching State for any space object concerned under which that country assumes liability, and indemnifies Australia, for any damage that the space object may cause.

The applicant will be required to submit, as part of the application for an AROLSO:

- a program management plan;
- a return safety plan;
- a return emergency plan; and
- a return environmental plan.

These plans are to be prepared by the applicant and will be reviewed by the SLASO using a combination of in-house and external consultant assessment capability. Further detail about the content of this material is set out in Section 4 of these Guidelines.

There is not always an apparent correlation between the documentation listed in the Regulations and the criteria listed in the Act. Some of the requested documentation will be assessed to satisfy more than one criteria listed in the Act, while sections of some documentation may individually satisfy one or more criteria. As such, all documentation will be used collectively to satisfy the Minister or the Minister's delegate about the criteria set out in the Act.

Note that the Act allows the Minister to ask for any other information that may be required in relation to the AROLSO. Therefore, the Minister has discretion to seek further information over and above that specifically identified in the Act, the Regulations or the Guidelines.

The AROLSO will remain in force for the period specified on the authorisation and will be granted subject to a number of conditions. Penalties will be imposed if the conditions of an AROLSO are breached.

The Minister or the Minister's delegate may vary or revoke an AROLSO. If the Minister considers there may be grounds to vary or revoke an AROLSO (other than at the holder's request), the Minister or the Minister's delegate will provide written notice to the holder of the AROLSO specifying the reasons and invite the holder to make a written submission within a reasonable period specified in the notice. In making a decision whether to vary or revoke the AROLSO, the Minister or the Minister's delegate must have regard to the matters raised in a submission received within the specified period.

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The Minister or the Minister's delegate may, by written notice, suspend an AROLSO if the holder contravenes a condition of the AROLSO, if an incident involving the space object occurs during the liability period or for reasons relevant to Australia's national security, foreign policy or international obligations. An AROLSO is automatically suspended if an accident involving the space object occurs during the liability period. The liability period is defined in the Act and for the return of a space object means "the period beginning when the relevant re-entry manoeuvre is begun and ending when the object has come to rest on Earth, or such other period as is specified in the regulations".

2.4 Conditions of an AROLSO

An AROLSO may be granted subject to conditions specified in the AROLSO. These conditions have a basis in the Act and Regulations.

Conditions will generally include:

- (a) the return must not be conducted in a way that is likely to cause substantial harm to public health or public safety or to cause substantial damage to property;
- (b) the space object must not be or contain a nuclear weapon or weapon of mass destruction of any other kind;
- (c) the space object must not contain any fissionable material unless the Minister's approval, or the Minister's delegate's approval, has first been obtained;
- (d) the holder of the AROLSO must satisfy the insurance/financial requirements;
- (e) the holder of the AROLSO must conduct the return according to the plans approved by the Minister or the Minister's delegate;
- (f) the holder of the AROLSO must comply with any directions given in writing by the Minister or the Minister's delegate in relation to the revision of plans for the conduct of the return;
- (g) the holder of the AROLSO must notify the Minister or the Minister's delegate of any changes or events affecting their space object, its launch, mission or return, including any changes to the assumptions and data used in hazard analysis or in assessing the insurance/financial requirements;
- (h) the holder of the AROLSO must allow an Australian Government Return Safety Officer access to the mission control centre during return operations, ensure that he or she is given any information or assistance he or she reasonably requests and comply with any directions he or she considers necessary to avoid danger to public health or to persons or property, including directions to stop the return of the space object to Australia or destroy the space object;
- (i) the holder of the AROLSO must meet the costs and expenses, up to a limit of \$3 million, of any accident or incident investigation under Part 7 of the Act; and
- (j) the holder provides certain information on completion of the return activities.

An AROLSO may be granted subject to further conditions that are unique to the particular circumstances of the applicant.

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2.5 Penalties

If a person returns a space object to a place in Australia without an AROLSO and is not otherwise exempted from the requirement to obtain an AROLSO (see Section 2.1), that party is guilty of an offence punishable on conviction by:

- for an individual, imprisonment for a term not exceeding 10 years, or a fine not exceeding 600 penalty units (\$66,000 as at October 2006), or both; or
- for a body corporate, a fine not exceeding 100,000 penalty units (\$11,000,000 as at October 2006).

If a person returns a space object purportedly in accordance with an AROLSO and: the return is likely to cause substantial harm to public health or public safety or to cause substantial damage to property; or the space object contains a nuclear weapon or a weapon of mass destruction of any other kind; or the space object contains fissionable material and the Minister's written permission has not first been obtained; or the insurance/financial requirements are not satisfied; that party is guilty of an offence punishable on conviction by:

- for an individual, imprisonment for a term not exceeding 10 years, or a fine not exceeding 600 penalty units (\$66,000 as at October 2006), or both; or
- for a body corporate, a fine not exceeding 100,000 penalty units (\$11,000,000 as at October 2006).

The Minister may choose to take civil proceedings against a person who is alleged to have breached an AROLSO condition, in which case the civil penalty payable must not exceed:

- for an individual, 500 penalty units (\$55,000 as at October 2006); or
- for a body corporate, 5,000 penalty units (\$550,000 as at October 2006).

3 Application and Assessment

3.1 Application

The Act and Regulations set out the criteria the Minister or the Minister's delegate must be satisfied about before granting an AROLSO. An application for an AROLSO should be made in accordance with these Guidelines. All information and documents must be submitted to the Director of the SLASO.

The application form and all documentation submitted must be in English and where translated from a document in a second language, must be accompanied by a verification report from a translator who is accredited by the national translation organisation of the relevant country. The name of the translator, nationality, level of accreditation and name of national translation organisation should also be provided.

A copy of the *Application for an AROLSO* form is included in these Guidelines. The Department's preference is for 3 hard copies and 1 electronic version of the full application and all supporting material, consistent with the *Electronic Transactions Act 1999*.

3.2 Assessment Process

The Minister or the Minister's delegate will be responsible for the final decision on whether an AROLSO should be granted based on a recommendation from the SLASO.

The assessment of the application for an AROLSO and supporting documentation will be undertaken by qualified technical assessors who are either members of the SLASO or independent, qualified experts or organisations contracted by the SLASO.

Assessment of the application and supporting documentation will be against the criteria set out in the Act and Regulations.

3.3 Timing for Assessment

Following receipt of *all* required information, the SLASO will consider the application and accompanying documents and within four weeks, recommend to the Minister or the Minister's delegate whether to grant the authorisation. Receipt of the application and all accompanying documents will be confirmed in writing, at which point a timeframe for assessment and notification of the decision will be set out. The Minister or the Minister's delegate will also advise the applicant in writing about the success or otherwise of the application.

The assessment period of four weeks (20 working days) is contingent upon the receipt of an adequate application consistent with the expectations set out in these Guidelines, with particular reference to Section 4. A 'stop-clock' principle will apply to the assessment of materials, such that if an applicant does not submit all the required information, or it is not submitted in an appropriate level of detail, the assessment period will pause. It will recommence on the day the necessary information is received by the SLASO.

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For example, if the SLASO has completed 15 working days of the 20 working day assessment period and determines that information has not been submitted, the SLASO will stop the clock and request the required information. The clock will then recommence at day 16 upon the receipt of the information.

The Minister or the Minister's delegate may, by written notice, request additional information from the applicant or holder of an AROLSO for the purpose of performing functions or exercising powers under the Act.

3.4 Preliminary Information

Applicants may want to secure an AROLSO in advance of launching their space object to ensure that they are able to conduct their planned return to Australia before committing to the mission. In some cases, this may be a considerable time prior to the return. It may be that some aspects of the return stage of the mission are not determined or documented in detail at the time the applicant wishes to secure an AROLSO.

The SLASO is prepared to consider recommending granting an AROLSO on the basis of preliminary information about the return and subject to conditions relating to the provision of further detailed plans during the course of the mission. Before considering such a course, the SLASO would need to be sufficiently satisfied that the nature of the space object to be returned and the conduct of the return has been determined, documented and disclosed to the SLASO to a level sufficient to make judgements about whether the return will be acceptable in principle. In particular, the SLASO would not consider recommending the grant of an AROLSO until it is sufficiently satisfied that:

- the organisation is competent to carry out the return and to develop and provide acceptable plans in a timely manner;
- the organisation will satisfy the insurance/financial requirements;
- the owner or controlling authority of the place in Australia where it is intended the space object will land has agreed to the use of the land for this purpose;
- there will be adequate space object tracking, communication, command and control arrangements;
- there will be adequate means of locating and recovering the returned space object;
- the return will satisfy the Launch Safety Standards set out in the Flight Safety Code;
- the return will satisfy environmental requirements, including any quarantine requirements;
- the return should not be refused for reasons relevant to Australia's national security, foreign policy or international obligations; and
- there are appropriate return abort opportunities.

Where the SLASO is sufficiently satisfied about these 'threshold' issues, the Minister or the Minister's delegate may consent to granting an AROLSO subject to conditions

concerning the provision of further details acceptable to the Minister or the Minister's delegate.

3.5 Changes to an AROLSO

Under the conditions of the AROLSO, the holder of the authorisation must maintain all documents relating to the return in an up-to-date condition. This includes keeping the SLASO informed of updates on each employee—see sub-section 4.2.2. The holder must ensure that copies of any amendments are given to the SLASO and, if a direction is given to the holder in relation to the amendments, they must comply with that direction.

As already noted, if there are any changes to the information submitted by the applicant for an AROLSO, the holder of the AROLSO must notify the SLASO in writing. Depending on the circumstances, the AROLSO may need to be varied, transferred, suspended or revoked.

A variation will be required where, for example, there is a change in the return landing site, the space object to be returned, the arrangements for conducting the return, or the timing of the return.

The AROLSO may be suspended where the holder contravenes a condition of the AROLSO, where an incident involving the space object occurs during the liability period, or for reasons relevant to Australia's national security, foreign policy or international obligations. The AROLSO is automatically suspended if an accident involving the space object occurs during the liability period.

The AROLSO has no effect while suspended, but the period for which it remains in force continues to run despite the suspension. The AROLSO may be revoked or varied while it is suspended.

3.6 Transfer of an AROLSO

There is no provision in the Act for an AROLSO to be transferred.

3.7 Liaison with SLASO

It is recommended that the applicant or intending applicant commences early discussions with the SLASO about the type of material to be submitted and timing requirements before the submission of an application for an AROLSO.

It is also expected that there will be ongoing liaison between the SLASO and the applicant regarding aspects of the material submitted including clarification and requests for further detail to satisfy the criteria set out in the Act and the Regulations.

Contact details for the SLASO are:

The Director
Space Licensing and Safety Office

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Department of Innovation, Industry, Science and Research
GPO Box 9839
CANBERRA, ACT 2601

Telephone: (02) 6213 6986
Facsimile: (02) 6213 7249
Email: director.slaso@innovation.gov.au
Website: <http://www.innovation.gov.au/space>

3.8 Information to be provided on Completion of Return Activities

The holder of an AROLSO will be required to submit certain information on completion of the return. This information includes, but is not limited to: the date and time of the return; return trajectory; return landing site; the condition of the returned space object; any problems affecting the return; any harm or damage caused by the return; changes to the space object recovery plans; and information to confirm compliance with the Launch Safety Standards set out in the Flight Safety Code.

It will be a condition of each AROLSO that the holder notifies the SLASO within 10 working days of the return, or such other amount of time as may be specified.

4 Documents to Accompany an Application

This section describes the plans, material and documentation to be submitted with an application for an AROLSO. It provides guidance about the content of such material and the information needed to meet the criteria set out in the Act and Regulations. Provision of documents, as set out in these Guidelines, does not guarantee that an AROLSO will be granted. Rather, the material, plans and documents will undergo a thorough assessment process to ensure that all arrangements to be put in place are adequate, relevant and appropriate for the proposed return. Potential applicants should liaise with the SLASO in preparing material to be submitted with an application. Potential applicants may benefit from legal advice in the preparation of their application.

4.1 Disclosure of Information

The information contained in the application form and accompanying documents will be used to assist in determining whether the applicant is fit and proper to be involved in activities regulated under the *Space Activities Act 1998* and the *Space Activities Regulations 2001*. The information may be disclosed to the relevant Australian Government Departments involved in the assessment of the national security, foreign policy, international obligations or safety aspects or environmental aspects of the application. The accompanying documents may also be provided to other bodies, such as relevant State/Territory and local governments, for the purposes of obtaining comments on the plans to enable the Minister or the Minister's delegate to assess the application. Failure to provide this information could affect the applicant's eligibility to be granted an AROLSO.

Applicants should be aware of their obligations under the National Privacy Principles set out in Schedule 3 of the *Privacy Act 1988 - Privacy Amendment Act 2004*.

4.2 Organisational Matters

Documents relating to the applicant's organisational structure and details of people connected with the return should be provided. This material will contribute to an assessment of national security and foreign policy implications of the return activities, organizational competence and that the probability of the return or returns causing substantial harm to public health and safety or damage to property is as low as reasonably practicable. Evidence that the organization is financially able to conduct the proposed activity should also be submitted.

4.2.1 Organisational Structure

Documents relating to the applicant's organisational structure are to be provided. This information will enable consideration of matters such as risk and company control.

This information should include (but is not limited to) a written description of the chain of command within the organisation, as well as duties and responsibilities of each position in the chain of command. This description could take the form of a

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diagrammatical representation containing the name and title of the management structure of the organisation.

Applicants should limit details of the organisational structure to that part of the organisation that is responsible for the return activities or the space object.

4.2.2 Details of People

As well as the names and addresses of all the Directors of the company, information should be provided for each of the applicant's employees with duties or functions connected with that part of the return or returns for which the applicant has responsibility. These employees may include (but are not limited to) managers responsible for the space object and its mission and people with authority for making decisions, including quality assurance and product acceptance personnel, such as:

- mission managers and/or controllers;
- product assurance and quality control managers;
- people responsible for verifying space object functionality, including the functionality of software;
- people responsible for return site operations; and
- people responsible for tracking and communication.

These details must include the name, qualifications, experience, details of the place(s) where the experience was gained, the usual place of residence, and employment history (for the past 10 years). It is important to note that qualifications refer to all qualifications, not just those relevant to the person's role at the launch facility. Similarly, experience refers to all work experience.

Once an AROLSO has been granted, the holder must continue to notify the SLASO of any changes or updates to these records and must keep a personnel record of everyone whose duties are directly connected with the return activities for the period of time during which the AROLSO remains in force, or such other amount of time as may be specified in the AROLSO.

4.2.3 Details of Contractual Arrangements

Details of contractual arrangements relating to ownership and operation of a space object are necessary to enable the Minister or the Minister's delegate to assess whether these arrangements will have an impact on Australia's national security, foreign policy or international obligations, and to assess competence.

A statement that sets out the details of any contractual arrangements between the applicant and any other parties directly connected with the return or returns, or with the returning space object, must be provided. These details should include, at minimum, the name(s) of the parties involved, the terms, the arrangements and the purpose of the contract.

Details of the contractual arrangements for access to and use of the landing site must be provided.

4.3 Insurance and Financial Requirements

There are two ways of satisfying insurance and/or financial requirements, either through satisfaction of insurance requirements or through demonstration of direct financial responsibility (separately identified for individuals, companies registered in Australia, and subsidiary companies).

When considering whether the applicant has satisfied insurance/financial requirements, the Minister or the Minister's delegate may have regard to any agreements between Australia and the other launching State or States under which the State or States assume liability and indemnify Australia for damage that the space object may cause, and the terms of that agreement.

The SLASO recommends that applicants give early consideration to how they propose to meet the statutory insurance/financial requirements.

4.3.1 Insurance Requirements

Applicants must ensure that they, and the Australian Government, are insured against any liability to pay compensation for damage for an amount not less than the lesser of the amount of \$750 million or the maximum probable loss. The maximum probable loss must be calculated using the method set out in Regulation 7.02. Applicants should provide a comprehensive and auditable document setting out their calculation of the maximum probable loss and written confirmation from an independent expert having suitable qualifications and experience who is approved by the Minister or the Minister's delegate that the calculation is in accordance with the prescribed methodology.

Alternatively the amount may be determined by an assessment undertaken by an internationally recognised independent insurance analyst, jointly appointed by the Australian Government and the applicant.

Applicants must provide an insurance certificate or other suitable documents setting out the insurance arrangements. It should include: the name and address of the insurer; the name and address of the person taking out the insurance; the name of the insureds; the amount of the insurance; and the risks covered by the insurance. If this is not able to be provided at the time of application, a plan for providing it should be included in the application. The SLASO may require the applicant to provide a copy of the contract of insurance and may require evidence of the financial capacity of the insurer.

In certain circumstances, it may be acceptable to provide a statutory declaration, signed by the individual applicant or the CEO or equivalent of the organisation, or a letter from the insurance company about the insurance arrangements. Applicants should contact the SLASO to discuss why an insurance certificate cannot be provided if they propose to take either of these options.

4.3.2 Direct Financial Responsibility

Where the applicant chooses direct financial responsibility, the applicant must, whether the applicant is an individual or company, provide evidence of having sufficient assets to cover any liability to third parties caused by the launch.

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In the event that the applicant is a company which is under the direction or control of another company, the other company must have sufficient net asset backing to cover any liability and provide a guarantee to the applicant that it will meet any obligation of the holder to pay compensation.

Where the applicant is an individual, a statement of the individual's assets and liabilities prepared not more than two months before the date of the application, certified by an independent, competent auditor should be provided. The individual should also provide a statutory declaration stating which of his or her assets are encumbered and that his or her financial circumstances have not materially changed since the date of the statement.

Where the applicant is a company, a statement of its assets and liabilities prepared not more than two months in advance of the date of the application, certified by an independent, competent auditor. The company should also provide a statutory declaration from a director of the company stating that the company's financial circumstances have not changed materially since the date of the statement.

The same information as above should be submitted for a company that controls the applicant, together with the required guarantee (as outlined previously).

Where the applicant is a consortium, similar details should be provided for any investor that holds greater than 5% interest in the applicant or is committed to fund greater than 5% of the costs of any loss arising from launch activities.

4.4 Probability of Harm to Public Health and Safety and Damage to Property

In order for the Minister or the Minister's delegate to assess whether the return poses a significant threat of causing substantial harm to public health and safety or damage to property, the applicant should provide a number of documents with the application for the AROLSO.

4.4.1 Program Management Plan

The program management plan should be the key document that sets out the case for the safety of the return. It should include:

- general information about the responsible organisation, the facilities and equipment involved, the space object(s), mission profile, return trajectory, landing site, and space object location, recovery and removal operations;
- the system by which safety is to be achieved and maintained in design, manufacture and operation; and
- formal safety assessment comprising reasoned arguments and judgements about the nature, likelihood and impact of potential hazards and the means to prevent or manage these hazards, including quantitative Risk Hazard Analysis of the return itself and compliance with the Launch Safety Standards of the Flight Safety Code.

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The program management plan may refer to other plans and documents, such as the return safety plan, the return emergency plan and to detailed technical descriptions of the space object and other technical equipment involved in the return.

The program management plan should provide a safety case that demonstrates that the return will be conducted in a manner consistent with the risks being as low as reasonably practicable.

The program management plan should include:

- a) A description of the regulatory, licensing or other approval arrangements of the (non-Australian) launching state(s) relevant to the launch, mission and/or return of the space object, including the relevant names and contact details.
- b) A description of the organisational structure, including the chain of command and the duties, responsibilities and experience of each person in the chain of command. In particular, the chief executive officer (or equivalent), managers with authority to direct the operation of the space object or any ground operations at or near the return site.
- c) If an aspect of the return operations is to be provided under a contract, a description of the contract.
- d) A description of the arrangements:
 - i) to ensure that personnel who have, or would have, duties or functions in connection with the return are properly prepared for the return and are aware of the person's duties and functions on the day of the return; and
 - ii) for responding to any problems encountered in carrying out the return and for taking actions to resolve those problems.
- e) A description of the space object, mission control centre and equipment at the return site together with evidence that they can be expected to be as safe and effective for their intended purpose as is reasonable practicable, having regard to their design, construction or proposed construction and that purpose.

Comment: it would be appropriate to describe any quality assurance processes, technical standards and certification of the space object and other equipment involved in the return and to provide a general technical description of the spacecraft, with a reference to the documents containing engineering details, plans and other technical information. Equipment to be used in Australia may be subject to Australian regulatory approvals.
- f) A description of the mission, including a mission 'time line' showing key mission events and decision points, including in particular the opportunities to abort the return and the consequences of any decision to abort.
- g) A description of the procedures for conducting the return including:
 - i) the arrangements to ensure the safety of ground operations;
 - ii) the safety arrangements for the return, covering the period beginning not later than 30 days prior to the commencement of the re-entry manoeuvre and ending when the space object has come to rest on Earth, including the criteria for going ahead with the return and the procedures for aborting the return; and
 - iii) any changes to the return mission arrangements, the procedures to confirm the space object is ready for the return, the procedures for

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going ahead with the return, or the procedures to recover from any abnormal event concerning the return; and

Comment: it would be appropriate to describe in particular the nature of any 'return readiness review' that would consider whether to proceed with the return and to describe the key criteria for deciding to proceed with or to abort the return, including: space object trajectory, space object functionality, tracking and communication system functionality, weather, readiness of personnel, notifications and landing area exclusion arrangements. It would also be appropriate to describe in particular the nature of any review of the environmental or other hazards associated with the return of the space object.

- iv) the arrangements for searching for, locating and recovering the space object after it has come to rest on the Earth.
- h) A description of the arrangements for reporting the return.
- i) A statement identifying all hazardous ground operations associated with the return and the procedures to manage those operations.
- j) The details of the communications arrangements for the return, including mission control communications with the space object and the landing site, landing site communications, telemetry (including the details of the radio frequencies to be used), return notifications and emergency communications.
- k) The details of security arrangements for the return.
Comment: it may be appropriate to discuss technology security issues in a separate technology security plan (see Section 4.8.3).
- l) The details of all approvals for the return required under Australian law and how they will be obtained.
Comment: these may be provided in a separate outstanding acquittals plan (see Section 4.8.2).
- m) The details of the space object, including any thing or organism it may contain, and the effect of any changes to the space object that may occur during the mission on the safety, performance and stability characteristics of the space object.

4.4.2 Return Safety Plan

The return safety plan should set out the strategies to be used to ensure that the return is conducted in compliance with the launch safety standards set out in the Flight Safety Code.

The return safety plan should include:

- a) The strategies to be used to ensure the return complies with the launch safety standards set out in the Flight Safety Code.
Comment: it would be appropriate to describe: safety-related aspects of space object design, manufacture and testing, such as command system reliability and redundancy, especially abort system reliability and redundancy; guidance accuracy; relevant quality assurance, analysis, testing and certification; any toxic, hazardous or bio-active materials; space object break-up and burn-up properties. It would be appropriate to describe: the reasons for selecting the landing site; other uses of the site and surrounding area; population; any relevant designated or protected assets or other high value assets; the strategies for ensuring the landing takes place in or around the landing site, at or around the designated time, including strategies to ensure dispersion is consistent with the

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assumptions of hazard analysis; hazard analysis of the return; return abort capabilities and return abort criteria; space object tracking; and landing area notification, exclusion and monitoring.

- b) The arrangements used to ensure the return complies with the launch safety standards set out in the Flight Safety Code.
Comment: it would be appropriate to describe the procedures used to give effect to the strategies above. For example: procedures for a space object certification or verification prior to launch; return readiness review, including verification of space object and ground system functionality; abort procedures; return notification procedures; landing area exclusion and monitoring procedures.
- c) A hazard analysis for the return in accordance with the methodology set out in the Flight Safety Code.
Comment: provide the details of the risk hazard analysis, casualty area, casualty expectation, individual risk isopleths, exclusion area, landing site area.
- d) The assumptions and data used in hazard analysis for the return.
Comment: provide the details of failure mode, effects and criticality analysis; failure probabilities; trajectory dispersions; debris catalogue; debris aerodynamic characteristics and debris burn-up analysis; wind and other weather assumptions; population and exclusion arrangement assumptions; and any other assumptions.
- e) Arrangements for reporting to the Minister or the Minister's delegate any changes to the assumptions or data used in hazard analysis for the return and any changes to the arrangements for carrying out the return.
- f) The arrangements to be followed for reporting, after the return has been carried out, on the compliance of the return with the launch safety standards set out in the Flight Safety Code.

4.4.3 Return Emergency Plan

The return emergency plan should identify accident, incident and other emergency situations that could reasonably be expected to be foreseen, including (but not limited to) possible landing of the space object outside the expected landing area, failure of parachutes (if applicable), or break-up of the space object on impact. It should also include emergencies associated with installing, operating or removing any return-related equipment at or around the landing site. The return emergency plan should describe arrangements for managing these emergencies, including notifying relevant authorities.

Comment: return sites are likely to be remote from medical or other emergency service facilities. It would be appropriate for the emergency plan to describe the arrangements for ensuring that appropriate first aid equipment and supplies, fire extinguisher equipment, back-up communication equipment and other relevant emergency equipment is on hand at the return site and that appropriate personnel have first aid training and or other medical training. It may be appropriate to deploy emergency equipment in preparation for the return, for example to provide for emergency transport.

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The return emergency plan should include:

- a) A description of the actions to be taken by the persons responsible for responding to an accident or incident involving the space object to be returned.
- b) A description of the actions to be taken by the persons responsible for responding to any other kind of emergency:
 - i) involving the space object to be returned;
 - ii) occurring at or near the intended return site that interrupts or may interrupt the return or may endanger public health or public safety or cause substantial damage to property; or
 - iii) occurring on the site of the return or any of the ground facilities in the vicinity of the site of the return that are associated with the return that may endanger public health or public safety or cause substantial damage to property.
- c) A list of the authorities or persons that are to be contacted in relation to the accident, incident or emergency.
- d) A description of the arrangements for coordinating, with those authorities or persons, any action to be taken in relation to the accident, incident or emergency.
- e) The details of appropriate emergency procedures for any kind of accident, incident or emergency.
- f) The details of exercises to test the plan in advance of the return and for reviewing and reporting on the effectiveness of the plan.
- g) A description of the procedures that, if an accident happens, are to be followed to locate the space object or its wreckage and, in accordance with any necessary permission by the Minister or the Minister's delegate or the Investigator, for recovering and removing the space object or its wreckage.
- h) A description of the arrangements to ensure that any obligations under Australian law are met in the event of an accident, incident or emergency.
- i) A description of the requirements of the (non-Australian) launching State regarding accidents, incidents or emergencies and for their investigation, including the names and contact details of relevant non-Australian regulatory or investigatory authorities.

4.5 Environment

The applicant must obtain all necessary environmental approvals under Australian law and present an adequate return environmental plan.

The return environment plan may comprise, include, summarise, or make reference to other relevant documents relating to environmental management of the return, such as an Environmental Impact Statement that may be required to obtain an environmental approval in relation to the return.

Applicants, at their own expense, may wish to have an Australian expert assist in developing the return environment plan or other documentation (such as an Environmental Impact Statement) that may be required to obtain an environmental approval.

4.5.1 Return Environmental Plan

The return environmental plan should identify all necessary environmental approvals under Australian law for the return and present an adequate plan for monitoring and mitigating any adverse effects of the return on the environment, including complying with any requirements or conditions imposed on the return under Australian environmental laws.

The return environmental plan should:

- a) Identify all necessary environmental approvals under Australian law for the return.

Comment: relevant laws may include the Environment Protection and Biodiversity Conservation Act 1999, the Quarantine Act 1908 and state environmental laws. Defence Instruction (General) ADMIN 38-1, Policy and Procedures for the use of the Woomera Prohibited Area, will be relevant if the return makes use of the Woomera Prohibited Area.

- b) Describe the proposed arrangements:

- i) for monitoring and mitigating any adverse effects of the return on the environment; and

Comment: identify any aspects of the return and associated activities that could adversely impact the environment. Describe the environmental objectives to be achieved. Describe the strategies that will be used to monitor and mitigate adverse impacts on the environment. Consider, for example, space object design and mission profile, toxic materials, biologically active material, return site environmental sensitivities, clean-up and remediation work. Consideration must be given to both normal operations and to abnormal operations or events that could reasonably be expected to be foreseen. Consideration must be given to the ground operations associated with the return, including equipment and personnel deployment, return operations, recovery and removal, transport etc.

- ii) for implementing the plan.

Comment: describe the arrangements that will give effect to the strategies. Identify the person responsible. Describe in particular the arrangements implementing any undertakings made in the course of seeking and being granted any of the environmental approvals.

- c) Describe the proposed arrangements:

- i) for reporting on the implementation of the plan;
- ii) for reviewing the plan; and
- iii) for ensuring the return is conducted in accordance with any applicable requirements under Australian law for the protection of the environment.

Comment: describe in particular the arrangements for complying with any conditions attached to any of the environmental approvals.

4.6 Statutory Declaration Regarding Weapons of Mass Destruction

The Minister or the Minister's delegate must be satisfied that the space object or objects in which the applicant has an ownership interest does not contain a nuclear weapon or weapons of mass destruction of any kind. A statutory declaration signed by the applicant, or if the applicant is a body incorporated, the CEO or equivalent, should be provided to confirm this.

4.7 National Security, Foreign Policy and International Obligations

The implications of the proposed return for Australia's national security, foreign policy and international obligations will be assessed primarily having regard to the organisation(s) and people involved (see Section 4.2) and the nature of the activity (see Section 4.4 and Section 4.6).

4.8 Other Information

4.8.1 Fissionable Material

The Minister or the Minister's delegate must be satisfied that the space object or objects does not contain fissionable material of any kind. A statutory declaration signed by the CEO or equivalent should be provided to confirm this (relating to the part of the space object to be returned to a place in Australia). If any part of the space object or objects to be returned to a place in Australia does contain fissionable material, the Minister's written approval must be obtained, and a copy of that approval must be included with the application.

To obtain approval for the space object or objects to contain fissionable material, the applicant should contact the Minister or the Minister's delegate, in writing, setting out the case for the inclusion of fissionable material. This should be done prior to the application process, as a copy of the approval must be included with the application documentation.

4.8.2 Outstanding Acquittals

The applicant must comply with Australian law in conducting the return of a space object to a place in Australia. In most cases, the return of a space object to a place in Australia will require specific approvals under a number of Australian laws. Evidence that the relevant approvals have been obtained will need to be presented to the SLASO. However, the SLASO recognises that some of these approvals may not have been obtained at the time of application for an AROLSO. This circumstance is addressed by the outstanding acquittals plan.

The intending applicant may seek legal advice, at their own expense, to identify their obligations under Australian law.

The applicant should submit an outstanding acquittals plan, which should include:

- a) a list of all activities in relation to the return, including installation and removal of any equipment and transport and export of the returned space object where appropriate, for which an approval or other authorisation of any kind is required by or under any Australian law other than the Act or an environmental law addressed in the return environmental plan;

Comment: relevant laws and approvals may include (but are not limited to) the Customs Act, transport and storage of hazardous goods legislation, radiocommunications licences, civil aviation and maritime safety legislation.

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- b) for each listed activity, a description of the arrangements for obtaining the approval or authorisation, including the timeframe for obtaining it; and
- c) for each matter referred to in any plan or contract for the return that is to be verified, validated or acquitted, a list of such matters and a description of the arrangements for verification, validation or acquittal including the time frame for obtaining it.

4.8.3 Technology Security

The space object being returned to a place in Australia, or equipment or information used to carry out the return, may be subject to technology security requirements. These may include missile technology control regime (MTCR) or other international obligations and may include obligations under Australian law or the domestic laws of the (non-Australian) launching State—for example, if U.S. technology is involved, the U.S. International Traffic in Arms Regulations (ITAR).

Technology security issues should be addressed in the program management plan unless there are reasons for presenting them in a separate plan. In this case, a technology security plan setting out the arrangements for ensuring technology security should be submitted with the application and should be referenced in the program management plan.

5 Application Form for an AROLSO

(To be submitted in English and accompanied by supporting documentation)

Applicant's name:

Applicant's address: (or registered address if applicant is incorporated under Australian law)

Applicant's identifying number (or ACN if incorporated under Australian law):

Names and addresses of those persons responsible for management and control of applicant (CEO or equivalent, Directors):

Contact within organisation for application (this is the name of an individual within the organisation who is able to deal with all matters in relation to the application, and who may be contacted at all times):

Name:

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Position:

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**Contact
Details:**

Business Hours: (0)	After Hours: (0)
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Mobile:

Facsimile:	Email:
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❖ **Month and year of proposed return(s):**

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❖ **Particular area or place in Australia where the
proposed space object is to be returned to:**

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**Description of owner, manufacturer and country of manufacture of the space
object to be returned:**

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Description of the purpose of the space object to be returned:

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Description of the mission:

Details of the nominated return trajectory of each space object proposed to be returned:

Certification and acknowledgment

The applicant:

1. ___ Certifies that the person who has executed this application is duly authorised to make the application on the applicant's behalf.

2. ___ Certifies that the information provided in this application is true and correct.

3. ___ Acknowledges that the provision of false and misleading statements in applications or giving false or misleading information is a serious offence.

Signature of applicant: (or person accountable for application)

Position :

Date:

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To be submitted to:

**The Director of the Space Licensing and Safety Office
Department of Innovation, Industry, Science and Research
GPO Box 9839
CANBERRA ACT 2601**

Telephone: (02) 6213 6986

Facsimile: (02) 6213 7249

Email: director.slaso@innovation.gov.au

Website: <http://www.innovation.gov.au/space>

- ❖ **It is recognised that these dates are indicative only and are subject to usual commercial, weather and other pressures.**

6 Checklist of Documentation to be Submitted with Application

	Checklist (Have you included the following)?
1. Organisational matters.....	<input type="checkbox"/>
2. Details of contractual arrangements.....	<input type="checkbox"/>
3. Insurance/financial requirements.....	<input type="checkbox"/>
4. Evidence about the probability of harm and damage	<input type="checkbox"/>
5. Statutory declaration regarding weapons of mass destruction.....	<input type="checkbox"/>
6. Statutory declaration regarding fissionable material.....	<input type="checkbox"/>
7. Approval from the Minister allowing fissionable material (if applicable).....	<input type="checkbox"/>
8. Evidence about environmental matters.....	<input type="checkbox"/>
9. Verification report from an accredited translator* (if applicable).....	<input type="checkbox"/>
10. Application fee.....	<input type="checkbox"/>

* In respect of each document translated into English from an accredited translator. This may include multiple reports if there is more than one translated document (each report needs to be referenced to the appropriate document).