



November 16, 2020

Via E-mail

Mr. Nimesh Sangani  
Federal Communications Commission  
Washington, DC 20554  
[Nimesh.Sangani@fcc.gov](mailto:Nimesh.Sangani@fcc.gov)

Re: File Number 0539-EX-CN-2020  
Correspondence Reference No. 57969

Dear Mr. Sangani:

EchoStar Global Australia Pty Ltd.'s ("EchoStar Global") submits this response to your questions regarding orbital debris mitigation information provided in the above-referenced experimental license application. As an initial matter, please note that the EchoStar Global satellite constellation is Australian-licensed and subject to direct and effective regulatory oversight by the Australian licensing authority, as demonstrated below. Thus, detailed information regarding debris mitigation plans for the satellite constellation, including information set forth below, is provided for informational purposes, and not required under Section 25.114(d)(14)(v) of the Commission's rules.

**Direct and Effective Regulatory Oversight Demonstration**

As the Commission has consistently noted, a demonstration of direct and effective regulatory oversight by a non-U.S. satellite system's national licensing authority may include submission of an English language version of the debris mitigation rules of the licensing authority and a statement of the current status of the licensing authority's review.<sup>1</sup> Accordingly, EchoStar Global submits, as Attachment A, an English language copy of Australia's *Space (Launches and Returns) (General) Rules 2019*, which includes debris mitigation requirements (at §§ 54 & 79). Additionally, EchoStar Global submitted orbital debris mitigation information as part of its overseas payload permit application, granted by the Australian licensing authority on January 9, 2020. Thus, the EchoStar Global satellite constellation is subject to direct and effective regulatory oversight by the Australian Space Agency for debris mitigation purposes.

**Response to Orbital Debris Mitigation Questions – For Informational Purposes Only**

As noted above, the following response is submitted for informational purposes only, and not required under the Commission's rules.

- 1) *Please clarify the point of communication for this experimental license request. Is the request for only the two satellites identified in the ODAR [Orbital Debris Assessment Report], or does it include future satellites operating under the SIRION ITU filing?*
- 1A: The point of communications is the satellite constellation identified under ITU filings for the SIRION-1 network, initially consisting of the EG-1 and EG-2 satellites described in the revised ODAR filed on August 14, 2020. We will seek additional authorization for any future modification to include additional satellites.

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<sup>1</sup> See *Mitigation of Orbital Debris in the New Space Age*, Report and Order and Further Notice of Proposed Rulemaking, FCC 20-54, ¶ 145 (2020).

- 2) *Perform all DAS related calculations with the most current version of DAS (3.1.0), or other appropriate modeling software.*
- 2A: Attachment B sets forth the requested DAS calculations using DAS v.2.0.2, subject to a request for confidential treatment. Tyvak, the satellite manufacturer, has contacted NASA to request use of the latest DAS v.3.1.0, but has been unable to obtain use of the latest version to perform the requested calculations/analyses for timely submission.
- 3) *Will either of the satellites be performing station-keeping, and if so, what will be the tolerances?*
- 3A: No active station-keeping will be performed for any of the satellites operating in low Earth orbit. The orbit is meant to adjust from the insertion orbit to the final orbit of 650 km circular with 96-degree inclination.
- 4) *What is the method employed for the deployment of the solar arrays? Is there any flight heritage information for these methods?*
- 4A: Solar trifold arrays are deployed with TiNi latch mechanisms. Flight heritage information for these mechanisms include six (out of six) successful satellite deployments. TiNi latch mechanisms are also utilized extensively in the industry for other small satellites.
- 5) *What are the stowed and deployed area-to-mass values?*
- 5A: The spacecraft mass is 11.1 kg. The X-Y stowed cross-sectional area is 0.024 m<sup>2</sup>, and the deployed cross-sectional area is 0.0265 m<sup>2</sup>. The X-Z stowed cross-sectional area is 0.0732 m<sup>2</sup>, and the deployed cross-sectional area is 0.0732 m<sup>2</sup>. The Y-Z stowed cross-sectional area is 0.0439 m<sup>2</sup>, and the deployed cross-sectional area is 0.5574 m<sup>2</sup>.
- 6) *Please provide a dead-on-arrival orbit lifetime and collision risk for each satellite, separately.*
- 6A: Dead-on-arrival orbit lifetime is not applicable, as the EG-1 and EG-2 satellites are operating in orbit. Collision risks are specified in Section 5.1 of the revised ODAR on file.
- 7) *Please provide the collision risks for a single satellite, and the aggregate, if end-of-life orbit lowering is not performed.*
- 7A: If end-of-life orbit lowering is not performed, the collision risk for each of the EG-1 and EG-2 satellites is 0, and the aggregate risk is 0.
- 8) *Please explicitly label all collision risk figures as either individual or aggregate values.*
- 8A: All assessed collision risks are specified for each satellite in Section 5.1 of the revised ODAR on file and equal 0.00000. Thus, the corresponding collision risks for the satellites in the aggregate also equal 0.00000.
- 9) Your survivability analysis indicated no surviving debris but a non-zero casualty risk. Please rerun the survivability analysis with the updated version of DAS (or other modeling software) and provide the results. If a similar situation occurs, please include the detailed logs, as well.
- 9A: As noted above, Tyvak, the satellite manufacturer, has been unable to obtain use of the latest DAS software version 3.1.0 to perform the requested calculations/analyses for timely submission. Nonetheless, based upon use of DAS v.2.0.2. the EG-1 and EG-2 satellites are compliant with re-entry debris requirements. The vehicle primarily consists of aluminum and PCB (fiberglass) material, and none of the components are expected to survive re-entry. With respect to the solar arrays, a small amount of carbon fiber is incorporated into the substrate stack-up in order to provide the required stiffness. DAS v.2.0.2 treats the carbon fiber as having a small risk of re-

entry survivability, but only if the entire wing mass consists of carbon fiber, which it is not. The solar array uses a layer of carbon fiber within the fiberglass stack-up to provide the stiffness, and thus DAS v.2.0.2 provides an overestimation of the potential for the solar array re-entry. For the entire solar array being carbon fiber, the total debris area calculated by DAS v.2.0.2 is 1.80 m<sup>2</sup>, and the risk of human casualty is 1:32,400 which is compliant with the NASA requirement of 1:10,000.

If you have any questions, please contact the undersigned.

My warmest regards,

*/s/ Jennifer A. Manner*

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Attachments



## **Space (Launches and Returns) (General) Rules 2019**

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I, Karen Andrews, Minister for Industry, Science and Technology, make the following rules.

Dated 26 August 2019

Karen Andrews  
Minister for Industry, Science and Technology

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## Part 1—Preliminary

### 1 Name

This instrument is the *Space (Launches and Returns) (General) Rules 2019*.

### 2 Commencement

- (1) Each provision of this instrument specified in column 1 of the table commences, or is taken to have commenced, in accordance with column 2 of the table. Any other statement in column 2 has effect according to its terms.

Commencement information		
Column 1	Column 2	Column 3
Provisions	Commencement	Date/Details
1. The whole of this instrument	At the same time as the <i>Space Activities Amendment (Launches and Returns) Act 2018</i> commences.	

Note: This table relates only to the provisions of this instrument as originally made. It will not be amended to deal with any later amendments of this instrument.

- (2) Any information in column 3 of the table is not part of this instrument. Information may be inserted in this column, or information in it may be edited, in any published version of this instrument.

### 3 Authority

This instrument is made under the *Space (Launches and Returns) Act 2018*.

### 4 Definitions

In this instrument:

**ABN** has the meaning given by section 41 of the *A New Tax System (Australian Business Number) Act 1999*.

**ACN** has the meaning given by section 9 of the *Corporations Act 2001*.

**Act** means the *Space (Launches and Returns) Act 2018*.

**Agency** means that part of the Department known as the Australian Space Agency.

**current version**, for a plan relating to a launch facility licence, Australian launch permit or overseas payload permit, means:

- (a) the plan as included as part of the application for the licence or permit (including any variations to the application); or
- (b) if the holder of the licence or permit has subsequently given a copy of an amendment of the plan to the Minister—the plan as amended.

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**Emergency Management Australia** means that part of the Home Affairs Department known as Emergency Management Australia.

**Flight Safety Code** means the document of that name published by the Department, as in force from time to time.

**Home Affairs Department** means the Department administered by the Minister administering the *Australian Border Force Act 2015*.

**insurance/financial requirements** means the insurance/financial requirements in Division 7 of Part 3 of the Act.

**overseas payload return application** means an application for a return authorisation where each return to be authorised meets the following criteria:

- (a) the return is to a place or area outside Australia;
- (b) the space object to be returned will be carried as a payload by another space object that does not require a return authorisation.

**period**, in relation to the launch or return of a space object, means the period that includes all of the days on which there is a window for the launch or return.

**relevant person** has the meaning given by subsection 120(5).

**standard return application** means an application for a return authorisation other than an overseas payload return application.

**stated purpose** means:

- (a) for the launch of a space object in accordance with an Australian launch permit—the purpose of the launch set out in the application (including any variations to the application) for the permit under section 46 of this instrument; and
- (b) for the launch of a space object in accordance with an overseas payload permit—the purpose of the launch set out in the application (including any variations to the application) for the permit under section 76 of this instrument; and
- (c) for the launch of a high power rocket in accordance with an Australian high power rocket permit—the purpose of the launch set out in the application (including any variations to the application) for the permit under section 18 of the *Space (Launches and Returns) (High Power Rocket) Rules 2019*; and
- (d) for the return of a space object in accordance with a return authorisation—the explanation as to why the object is to be returned set out in the application (including any variations to the application) for the authorisation under section 96 or 113 of this instrument (whichever is applicable).

**technical recognition instrument** means an instrument in which Australia recognises another country's licensing or certification of a launch facility or space object, or part of a launch facility or space object.

**window**, in relation to the launch or return of a space object on a given day, means the window or windows of time on that day in which the space object is able to be launched or returned.

## **Part 2—Launch facility licences**

### **Division 1—Additional criteria for grant of launch facility licence**

#### **5 Additional criteria**

- (1) For the purposes of paragraph 18(f) of the Act, the criterion in subsection (2) is prescribed.
- (2) The design and construction of the launch facility must be as effective and safe as is reasonably practicable having regard to the proposed use of the facility.

## **Division 2—Standard launch facility licence conditions**

### **6 Standard conditions**

For the purposes of paragraph 20(b) of the Act, the conditions in this Division are prescribed.

### **7 Operating facility consistently with Act**

- (1) The holder of the licence must not allow the launch facility to be used for a launch that is not authorised by an Australian launch permit, an Australian high power rocket permit or an authorisation certificate.
- (2) The holder of the licence must not act inconsistently with any requirements of an Australian launch permit, Australian high power rocket permit or authorisation certificate that authorises a launch being conducted from the launch facility.
- (3) The holder of the licence must, if consent is given by a holder of an Australian launch permit or an authorised person in accordance with paragraph 52(2)(a) of the Act, give a Launch Safety Officer access to the launch facility in accordance with that provision.
- (4) The holder of the licence must give a Launch Safety Officer any information or assistance that the Launch Safety Officer asks the holder for in accordance with paragraph 52(2)(b) of the Act.
- (5) The holder of the licence must give the Minister any information about the licence that the Minister asks for under section 60 of the Act.

### **8 Plans and record-keeping**

- (1) If the holder of the licence amends any of the following, the holder must give a copy of the amendment to the Minister:
  - (a) the facility management plan for the launch facility;
  - (b) the environmental plan for the launch facility;
  - (c) the design and engineering plans for each part of the launch facility;
  - (d) the emergency plan for the launch facility;
  - (e) the technology security plan for the launch facility.
- (2) The holder of the licence must ensure that the launch facility is operated, and constructed if construction is not completed when the licence is granted, in accordance with the current version of each of the plans mentioned in subsection (1).
- (3) The holder of the licence must keep records on the operation of the launch facility.
- (4) A record must be kept until the earlier of:
  - (a) the end of 7 years after the recorded event; and
  - (b) the licence ceasing to be in force.

## 9 Personnel

- (1) The holder of the licence must notify the Minister of any changes to the following:
  - (a) the organisational structure that was described under paragraph 18(1)(a) in the application for the licence;
  - (b) the identity of the individuals who have the responsibilities and roles described in subsection 18(2);
  - (c) the duties or functions of an individual who has a responsibility or role described in subsection 18(2).
- (2) If an individual assumes a responsibility or role described in subsection 18(2), the holder of the licence must give the Minister the information mentioned in subparagraphs 18(1)(b)(i) to (iv) about the individual.
- (3) The holder of the licence must maintain a personnel record for each individual who has a responsibility or role described in subsection 18(2) that includes the following information:
  - (a) the individual's residential address;
  - (b) the individual's qualifications;
  - (c) the individual's position;
  - (d) the date when the individual began to occupy the position;
  - (e) the duties and functions of the position;
  - (f) if the duties and functions have changed while the individual has occupied the position—the date the current duties and functions began.
- (4) The holder of the licence must keep the personnel record for an individual until the earlier of:
  - (a) the end of 7 years after the individual ceases to have a responsibility or role described in subsection 18(2); and
  - (b) the license ceasing to be in force.

## **Division 3—Application for grant of licence**

### **Subdivision A—Preliminary**

#### **10 Purpose of Division**

For the purposes of section 24 of the Act, this Division sets out requirements for an application for the grant of a launch facility licence.

#### **11 Application must be in writing and in English**

- (1) The application must be in writing and, subject to subsection (2), in English.
- (2) If a document required to be included in the application is not in English, the application must also include an English language translation of the document.

### **Subdivision B—Initial stage of application**

#### **12 Contents of initial stage of application**

This Subdivision sets out the material required in documents that are lodged when the application is made.

#### **13 Information about applicant**

The application must include the following:

- (a) the name of the applicant;
- (b) the name, position and contact details of an individual who will act as contact officer for the purposes of dealing with the application;
- (c) the applicant's ABN (if any);
- (d) if the applicant is a company registered under the *Corporations Act 2001*—the applicant's ACN;
- (e) information about which persons or entities have ownership, control or direction of the applicant, including the nationality of those persons or entities.

Note: For paragraph (e), examples include a corporation that the applicant is a subsidiary of, significant shareholders in the applicant, or the government administering the applicant.

#### **14 Information about launch facility**

The application must include the following information:

- (a) for a fixed facility or place—the location (or proposed location) of the launch facility;
- (b) for a mobile facility—the proposed locations for operating the launch facility;
- (c) for a fixed facility or place—a site plan of the launch facility;
- (d) for a mobile facility—a site plan for each location the launch facility is proposed to operate;

- (e) the intended use of the launch facility, including the frequency of launches and possible kinds of launch vehicles;
- (f) when the applicant proposes to commence operating the launch facility;
- (g) if construction of the launch facility has not commenced—when the applicant proposes to construct the facility.

## **15 Facility management plan**

- (1) The application must include a facility management plan for the launch facility.
- (2) The plan must include the following:
  - (a) the applicant's strategies for operating the facility, including in relation to the intended use of the facility for launches (such as the frequency of launches, possible kinds of launch vehicles and possible flight paths);
  - (b) practices and procedures to control the operation of the facility, including any protective security measures to be put in place;
  - (c) arrangements for reporting on the operation of the facility to relevant authorities;
  - (d) a description or copy of the quality assurance plan or plans that cover the operation of the facility and, if the facility is not yet constructed, the construction of the facility;
  - (e) the system to be used for:
    - (i) making and keeping records in relation to the operation of the launch facility; and
    - (ii) maintaining documentation (such as manuals and procedures) relating to the operation of the launch facility;
  - (f) arrangements for maintaining the launch facility, including:
    - (i) the system for recording scheduled and unscheduled maintenance; and
    - (ii) procedures for reporting failures, malfunction or defects.

## **16 Financial standing**

- (1) The application must include evidence of the applicant's financial standing and financial capacity to operate the launch facility, and to construct the launch facility if it is not already constructed.
- (2) The application must include a description of the applicant's system for financial management, including the methods that the applicant uses to ensure sound financial management.
- (3) The application must include a report from an auditor on:
  - (a) the applicant's financial capacity to operate the facility and, if applicable, construct the facility; and
  - (b) the adequacy of the applicant's system for financial management.



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## Subdivision C—Second stage of application

### 17 Contents of second stage of application

- (1) The Minister may, after the application has been made, make a request for the applicant to lodge documents for the second stage of the application.
- (2) This Subdivision sets out the material required in documents that are lodged when the Minister makes a request under subsection (1).

### 18 Organisational structure and personnel

- (1) The application must include:
  - (a) a description of the organisational structure of the applicant, including the chain of command within the structure and the duties and responsibilities of each position in the chain of command; and
  - (b) the following information about each individual described in subsection (2) (whether or not the individual is part of the applicant's organisational structure):
    - (i) the individual's name, date of birth and place of birth;
    - (ii) the address of the individual's usual place of residence;
    - (iii) the individual's relevant qualifications and experience;
    - (iv) how long the individual has occupied the individual's current position.
- (2) Paragraph (1)(b) applies to the following individuals:
  - (a) each individual with responsibility for the overall management of the applicant (such as directors or members of the board or governing committee);
  - (b) the applicant's chief executive officer or equivalent;
  - (c) each individual in a position that would have authority to direct operation of the launch facility or a part of the launch facility;
  - (d) each individual in a position that would have authority or oversight in relation to operating or maintaining the ground systems of the launch facility;
  - (e) each individual in a position that would have a role in conducting launches at the launch facility, including integration of payloads;
  - (f) each individual who had authority or oversight in relation to preparing the technology security plan included in the application (as required by section 22);
  - (g) each individual in a position that would have a role in implementing or monitoring the technology security plan.

### 19 Design and engineering plans and specifications

- (1) The application must include, for each part of the launch facility, a copy of:
  - (a) the design and engineering plans; and
  - (b) the specifications for the design and engineering.

- (2) However, if a technical recognition instrument exists in relation to a part of the launch facility, the application may instead include a statement that identifies the technical recognition instrument.

## 20 Emergency plan

- (1) The application must include an emergency plan for responding to:
- (a) accidents and incidents involving a space object or high power rocket that is launched, or is attempted to be launched, from the launch facility; and
  - (b) any other kind of emergency at or near the launch facility.

Note: The terms *accident* and *incident* are defined in sections 85 and 86 of the Act.

- (2) The plan must include the following:
- (a) a description of actions to be taken by the persons responsible for responding to an accident, incident or other emergency;
  - (b) a list of the authorities or persons to be notified by the applicant in relation to an accident, incident or other emergency;
  - (c) a description of the arrangements for coordinating any action to be taken in relation to the accident, incident or other emergency with those authorities or persons;
  - (d) evacuation procedures for an accident, incident or other emergency;
  - (e) details of exercises to test the plan at least annually, and arrangements to report the results of those exercises to the Agency;
  - (f) arrangements for reviewing the effectiveness of responses in emergencies and exercises, and arrangements to report the results of any review to the Agency;
  - (g) procedures to be followed, in the case of accident, for:
    - (i) locating the launch vehicle or its wreckage; and
    - (ii) in accordance with any necessary permission of the Minister or Investigator under the Act—recovering and removing the launch vehicle or its wreckage;
  - (h) the equipment and facilities necessary for responding to an accident, incident or other emergency;
  - (i) arrangements to ensure the applicant would meet the applicant's obligations under any law of the Commonwealth or law of a State or Territory in the event of an accident, incident or other emergency or when conducting exercises to test the plan.
- (3) The application must include information about approvals required for any of the arrangements or procedures in the emergency plan under any other law of the Commonwealth or a law of a State or Territory, including evidence as to whether the approvals have been obtained.

Example: Any approval required from the ambulance, fire, police or other emergency service in the State or Territory where the launch facility is or is proposed to be located.

## 21 Environment

- (1) The application must include information about environmental approvals required for the construction or operation of the facility under any other law of

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the Commonwealth or a law of a State or Territory, including evidence that the environmental approvals have been obtained.

- (2) The application must include an environmental plan for the operation of the launch facility, and the construction of the facility if it has not already been constructed.
- (3) If an environmental plan is required under another law of the Commonwealth or a law of a State or Territory, the requirements of subsection (2) may be met by including a copy of the plan in the application.
- (4) If subsection (3) does not apply, the environmental plan must include the following:
  - (a) procedures for ensuring that the launch facility is operated, and any construction associated with the launch facility is done, in accordance with any applicable requirements under a law of the Commonwealth or a law of a State or Territory for the protection of the environment;
  - (b) an assessment of the likely impact of the operation of the launch facility, and any associated construction, on the environment;
  - (c) arrangements for monitoring and mitigating any adverse effects of the operation of the launch facility, and of any associated construction, on the environment;
  - (d) mechanisms for reporting on the implementation of those procedures and arrangements and for reviewing the plan.
- (5) If subsection (3) does not apply, the application must include a written assessment of the adequacy of the plan by a person with suitable qualifications and experience who is not a related party of the applicant.

**22 Technology security**

- (1) The application must include a technology security plan for the launch facility.
- (2) The plan must include the following:
  - (a) arrangements and procedures for safeguarding the technology to be used in operating the launch facility, including:
    - (i) procedures to prevent unauthorised people from having access to the technology; and
    - (ii) the cybersecurity strategy to be used;
  - (b) if there is in force an agreement of any kind between Australia and another country that relates to safeguarding all or part of the technology—information on how the plan ensures that Australia gives effect to its obligations under the agreement.
- (3) The application must include a written assessment of the adequacy of the cybersecurity strategy in the plan by an independent person with suitable qualifications and experience.

## **Subdivision D—Third stage of application**

### **23 Contents of third stage of application**

- (1) The Minister may, after making a request under subsection 17(1), make a request for the applicant to lodge documents for the third stage of the application.
- (2) This Subdivision sets out the material required in documents that are lodged when the Minister makes a request under subsection (1).

### **24 Outstanding approvals**

The application must include the following:

- (a) a list of all activities in relation to the construction and operation of the launch facility for which an approval (however described) is required under any other Commonwealth law or law of a State or Territory but not yet obtained;
- (b) for each such activity, arrangements (including the time frame) for obtaining the required approval.

### **25 Matters to be verified**

The application must include the following:

- (a) a list of matters mentioned in the facility management plan or technology security plan that are yet to be verified or validated;
- (b) for each such matter, arrangements (including the time frame) for obtaining the verification or validation.

## **Subdivision E—Other matters**

### **26 Application may include additional information**

The application, and any document required to be included in the application, may include any other information that is relevant to demonstrating whether the criteria in section 18 of the Act for granting a launch facility licence to the applicant are met (including the criteria prescribed by Division 1 of this Part).

### **27 Application may be updated**

The applicant may, before the Minister's decision whether to grant a launch facility licence to the applicant, update a part of the application (for example, to update information that is no longer correct or to change the plans for operating the facility).

## **Division 4—Application for variation of licence**

### **28 Variation of licence conditions**

- (1) For the purposes of section 24 of the Act, the holder of a launch facility licence may apply to the Minister for the conditions of the licence to be varied.
- (2) The application must include:
  - (a) a description of the variation the holder is requesting; and
  - (b) the reason for requesting the variation.
- (3) The application may include any supporting material the holder believes will assist the Minister in deciding the application.

## **Division 5—Application for transfer of licence**

### **29 Purpose of Division**

For the purposes of section 24 of the Act, this Division sets out requirements for an application for the transfer of a launch facility licence.

### **30 Application to be made by transferee**

The application must be made by the person to whom it is proposed to transfer the licence.

### **31 Application must be in writing and in English**

- (1) The application must be in writing and, subject to subsection (2), in English.
- (2) If a document required to be included in the application is not in English, the application must also include an English language translation of the document.

### **32 Statement from current holder of licence**

The application must include a statement by the current holder of the licence explaining why the transfer is being sought.

### **33 Other contents of transfer application**

- (1) Subject to this section, the application must include all of the material required to be included in an application for the grant of a launch facility licence by Subdivisions B, C and D of Division 3.
- (2) The material must be included when the application is made (that is, without a request from the Minister under subsection 17(1) or 23(1)).
- (3) A requirement for the application to include a plan may be met by:
  - (a) providing a copy of the current version of the plan of the current holder of the licence; and
  - (b) including a statement that the applicant proposes to operate the facility under the same plan.
- (4) A requirement for the application to include any other information or material may be met by providing a copy of the information or material that was included in the application made by the current holder of the licence, if the information or material is still correct.
- (5) The application, and any document required to be included in the application, may include any other information that is relevant to demonstrating whether the criteria in section 18 of the Act for granting a launch facility licence to the applicant are met (including the criteria prescribed by Division 1 of this Part).

Note: Subsection 22(1) of the Act provides that the Minister may transfer a launch facility to another person if the Minister could grant the licence to the other person under section 18 of the Act.

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**34 Application may be updated**

The applicant may, before the Minister's decision whether to transfer a launch facility licence to the applicant, update a part of the application (for example, to update information that is no longer correct or to change the plans for operating the facility).

## **Part 3—Australian launch permits**

### **Division 1—Additional criteria for grant of Australian launch permit**

#### **35 Additional criteria**

- (1) For the purposes of paragraph 28(3)(f) of the Act, the criteria in this section are prescribed.
- (2) The launch vehicle to be used in the launch or series of launches must be as effective and safe as is reasonably practicable having regard to the purpose of the launch.
- (3) The flight path for each launch must be as effective and safe as is reasonably practicable, having regard to the purpose of the launch, the design of the launch vehicle and the launch safety standards in the Flight Safety Code.
- (4) The risk hazard analysis for each launch and any connected return must be consistent with the Flight Safety Code.
- (5) There must be adequate planning to address the environmental impacts of the launch or launches and any connected return.



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## Division 2—Standard Australian launch permit conditions

### 36 Standard conditions

For the purposes of paragraph 30(e) of the Act, the conditions in this Division are prescribed.

### 37 Launch information and notice of changes

- (1) The holder of the permit must, at least 2 days before a launch but not more than 10 days before, give the Minister:
  - (a) confirmation of the day the launch is scheduled to take place and the launch window on that day; and
  - (b) information about any subsequent days, and the launch window on each of those days, that the launch may be attempted if it does not occur on the scheduled day; and
  - (c) confirmation of the planned trajectory of the space object.
- (2) If the launch does not occur on the scheduled day mentioned in paragraph (1)(a) and the holder of the permit intends to attempt the launch on a day mentioned in paragraph (1)(b), the holder must notify the Minister as soon as practicable.
- (3) The holder of the permit must notify the Minister of any change to the payloads that will be launched.
- (4) The holder of the permit must give the Minister any changes to the assumptions and data used in the risk hazard analysis for a launch and any connected returns, along with a statement from a suitably qualified expert who is approved by the Minister as to whether the risk hazard analysis continues to fall within the launch safety standards in the Flight Safety Code.
- (5) The holder of the permit must notify the Minister of any changes to the information mentioned in section 47 (information about flight path) for a launch or connected return.
- (6) The holder of the permit must, as far as is practicable, conduct each launch and any connected return consistently with the information mentioned in section 47 that has been given to the Minister (either in the application for the permit or subsequently).

### 38 Plans

- (1) If the holder of the permit amends any of the following, the holder must give a copy of the amendment to the Minister:
  - (a) the launch management plan for the launch or series of launches and any connected return;
  - (b) the flight safety plan for the launch or series of launches and any connected return;
  - (c) the technology security plan relating to the launch or series of launches and any connected return.

- (2) The holder of the permit must ensure that each launch and any connected return is conducted in accordance with the current version of each of the plans mentioned in subsection (1).

### **39 Information that must be given after launch**

The holder of the permit must give the Minister the following as soon as practicable after the launch of a space object authorised by the permit:

- (a) the information about the orbital parameters of the space object mentioned in paragraph 1(d) of Article IV of the Registration Convention;
- (b) if a country other than Australia is a launching state for the space object—whether the other launching state has indicated it wishes to register the space object;
- (c) a report on the compliance of the launch with the launch safety standards in the Flight Safety Code and with the assumptions and data used in the risk hazard analysis for the launch.

### **40 Compliance with directions and requests for information**

- (1) The holder of the permit must give the Minister written notice of any action taken in response to a direction given to the holder by a Launch Safety Officer under paragraph 52(2)(c) of the Act, within 10 business days after the direction is given.
- (2) The holder of the permit must give the Minister any information about the permit that the Minister asks for under section 60 of the Act.

### **41 Personnel**

- (1) The holder of the permit must notify the Minister of any changes to the following:
  - (a) the organisational structure that was described under paragraph 45(1)(a) in the application for the permit;
  - (b) the identity of the individuals who have the responsibilities and roles described in subsection 45(2);
  - (c) the duties or functions of an individual who has a responsibility or role described in subsection 45(2).
- (2) If an individual assumes a responsibility or role described in subsection 45(2), the holder of the permit must give the Minister the information mentioned in subparagraphs 45(1)(b)(i) to (iv) about the individual.

## Division 3—Application for grant of permit

### 42 Purpose of Division

For the purposes of section 34 of the Act, this Division sets out requirements for an application for the grant of an Australian launch permit.

### 43 Application must be in writing and in English

- (1) The application must be in writing and, subject to subsection (2), in English.
- (2) If a document required to be included in the application is not in English, the application must also include an English language translation of the document.

### 44 Information about applicant

The application must include the following:

- (a) the name of the applicant;
- (b) the name, position and contact details of an individual who will act as contact officer for the purposes of dealing with the application;
- (c) the applicant's ABN (if any);
- (d) if the applicant is a company registered under the *Corporations Act 2001*—the applicant's ACN;
- (e) information about which persons or entities have ownership, control or direction of the applicant, including the nationality of those persons or entities.

Note: For paragraph (e), examples include a corporation that the applicant is a subsidiary of, significant shareholders in the applicant, or the government administering the applicant.

### 45 Organisational structure and personnel

- (1) The application must include:
  - (a) a description of the organisational structure of the applicant, including the chain of command within the structure and the duties and responsibilities of each position in the chain of command; and
  - (b) the following information about each individual described in subsection (2) (whether or not the individual is part of the applicant's organisational structure):
    - (i) the individual's name, date of birth and place of birth;
    - (ii) the address of the individual's usual place of residence;
    - (iii) the individual's relevant qualifications and experience;
    - (iv) how long the individual has occupied the individual's current position.
- (2) Paragraph (1)(b) applies to the following individuals:
  - (a) the applicant's chief executive officer or equivalent;
  - (b) each individual in a position that would have authority to direct:
    - (i) the conduct of a launch and any connected return; or

- (ii) the operation of the launch vehicle;
- (c) each individual in a position that has or would have any duties or functions directly connected with operating the launch vehicle proposed to be used in a launch;
- (d) each individual in a position within the organisational structure of the applicant that has or would have authority or oversight in relation to manufacture or maintenance of the launch vehicle;
- (e) each individual in a position that would have authority or oversight in relation to tracking or communicating with the launch vehicle;
- (f) each individual in a position that would have authority or oversight in relation to integration of a payload with the launch vehicle;
- (g) each individual in a position that has or would have authority or oversight in relation to:
  - (i) installation of software in the launch vehicle; or
  - (ii) verification that the software functions correctly;
- (h) each individual in a position that has or would have authority or oversight in relation to verification that the structural system, propulsion system, fuel system, electrical system or electronic system of the launch vehicle functions correctly;
- (i) each individual who had authority or oversight in relation to preparing the technology security plan included in the application (as required by section 56);
- (j) each individual in a position that would have a role in implementing or monitoring the technology security plan.

#### **46 Information about launch**

- (1) The application must include the following information for each launch:
  - (a) a description of the purpose of the launch;
  - (b) if the launch is proposed to be from a launch facility—the launch facility;
  - (c) if the launch is proposed to be from a mobile launch facility—the latitude and longitude of the launch;
  - (d) if the launch is proposed to be from an aircraft—the latitude, longitude and elevation of the launch;
  - (e) the launch period and the launch windows within that period;
  - (f) the period for any connected return and the return windows within that period.
- (2) For the purposes of paragraph (1)(e), if the launch period extends over more than 1 day, the application must also include an estimated launch day.

#### **47 Information about flight path**

- (1) The application must include the following information for each launch:
  - (a) a description of the flight path;
  - (b) the name and location of any critical asset that is:
    - (i) directly under the flight path; or

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- (ii) within an area of reasonable probability in which any debris may land (both scheduled debris within the meaning of the Flight Safety Code and unscheduled debris);
  - (c) for critical assets referred to in paragraph (b)—an explanation of why the applicant considers the flight path is appropriate and safe given the location of the assets.
- (2) The application must include, for each launch that has a connected return, information about the following in relation to each space object to be returned:
  - (a) a description of the path of the space object;
  - (b) the ground track for re-entry;
  - (c) staging events for the return;
  - (d) predicted errors in accuracy for the re-entry and landing of the space object.

**48 Information about launch vehicle**

- (1) The application must include the following information relating to the launch vehicle proposed to be used in each launch:
  - (a) the name and address of the manufacturer;
  - (b) a copy of the manufacturer's quality assurance system, or a description of the system if a copy is not available to the applicant;
  - (c) information showing whether the manufacturer has quality assurance certification that is in accordance with a recognised standard;
  - (d) information showing whether the launch vehicle has been manufactured in accordance with the designer's specifications and tested and inspected having regard to the designer's specifications;
  - (e) information showing whether the launch vehicle has been manufactured, tested and inspected in accordance with a recognised standard in the country of manufacture;
  - (f) information showing whether the launch vehicle has received appropriate import approvals;
  - (g) the name and address of the manufacturer of each of the systems of the launch vehicle mentioned in subsection (3);
  - (h) technical specifications of each of the systems mentioned in subsection (3);
  - (i) a description of the development, qualification and acceptance programs for the hardware and software of the systems mentioned in subsection (3), including:
    - (i) information about any functional testing, modelling and analyses that have been carried out in relation to those systems; and
    - (ii) a description of the results of the qualification verification and acceptance verification programs.
- (2) However, if a technical recognition instrument exists in relation to a kind of information required under subsection (1), the application may instead include a statement that identifies the technical recognition instrument.
- (3) For the purposes of paragraphs (1)(g) to (i), information is required for the following systems of the launch vehicle:
  - (a) the structural system;

- (b) the propulsion system;
  - (c) the fuel system;
  - (d) the electrical system, including the power supply and power distribution;
  - (e) each of the electronic systems, including the guidance system, communications system, flight control system, computer system and data management system;
  - (f) the flight safety system.
- (4) The application must include a description of:
- (a) any previous flights that the launch vehicle, or a part of the launch vehicle, has undertaken; and
  - (b) any assessment or testing of the vehicle following such a flight.
- (5) The application must include a declaration by the applicant that the launch vehicle is not, and does not contain, a nuclear weapon or weapon of mass destruction of any other kind.
- (6) If the launch vehicle contains a nuclear power source and the Minister's written approval has been obtained for it to do so, the application must include a copy of the approval.

#### **49 Flight history or testing of kind of launch vehicle**

- (1) The application must include an outline of the publicly available information on the flight history of the kind of launch vehicle for the previous 5 years.
- (2) If the kind of launch vehicle has not been flight tested or the launch vehicle has had a major modification, the application must include:
- (a) a safety record for the vehicle, including testing history; and
  - (b) if the safety record includes anomalies or failures—the measures taken to reduce the risk of future anomalies or failures; and
  - (c) other information relevant to demonstrating the safety of the vehicle.
- (3) For the purposes of subsection (2), a launch vehicle has had a major modification if:
- (a) a change to the design of the vehicle involves a change to the type of engine, navigation system, flight control system or flight termination system; or
  - (b) a change to the design concerns the use of strap-in boosters; or
  - (c) the vehicle has been modified in any way that might affect to a significant extent any characteristic of its operation or performance.

#### **50 Information about payload**

- (1) For any launch that is proposed to include one or more payloads, the application must include the following information for each payload:
- (a) a description of the payload;
  - (b) the purpose for which the payload is intended to be used;
  - (c) the owner of the payload;

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- (d) if the owner of the payload is a corporation—information about significant shareholders in the corporation;
  - (e) if the owner of the payload is an individual—the address, date of birth and place of birth of the owner;
  - (f) the manufacturer of each subsystem of the payload and the country of manufacture;
  - (g) the proposed trajectory and (if applicable) orbit of the payload;
  - (h) the sensors and other information-gathering devices that are attached to the payload or powered by it;
  - (i) if the owner of the payload is an Australian national—whether the payload is intended to be returned (other than in a connected return described under section 47) and, if so:
    - (i) the approximate timing of the return; and
    - (ii) the intended location of the return; and
    - (iii) a description of the intended return process;
  - (j) if the owner of the payload is an Australian national—an undertaking from the owner that the owner will:
    - (i) update the Agency on a monthly basis (until advised by the Agency that updates are no longer required) on efforts to establish communication with the payload; and
    - (ii) inform the Agency when communication with the payload is established; and
    - (iii) inform the Agency if communication with the payload is subsequently lost; and
    - (iv) not operate the payload in a manner that causes Australia to be liable for any damage under the Liability Convention; and
    - (v) not operate the payload in a manner that the owner knows, or ought reasonably to know, will negatively affect the national security of Australia; and
    - (vi) inform the Agency when end of mission manoeuvres, as identified in the debris mitigation strategy, are commenced;
  - (k) if the owner of the payload is not an Australian national—a copy of any authorisation or permit from the owner’s country obtained in relation to the launch of the payload.
- (2) The application must include a declaration by the owner of the payload that the payload is not, and does not contain, a nuclear weapon or weapon of mass destruction of any other kind.
- (3) If the payload contains a nuclear power source and the Minister’s written approval has been obtained for it do so, the application must include a copy of the approval.

### **51 Launch management plan**

- (1) The application must include a launch management plan for managing the launch or series of launches and any connected return.
- (2) The plan must include the applicant’s arrangements and procedures for conducting each launch and any connected return, including the following:

- (a) arrangements to ensure the safety of associated ground operations;
  - (b) procedures for making any changes to the conduct of the flight;
  - (c) procedures to confirm that the launch vehicle is ready for assembly;
  - (d) procedures for assembly of the launch vehicle;
  - (e) procedures for the integration of payloads;
  - (f) procedures for identifying and responding to adverse weather conditions for launch;
  - (g) procedures for launch countdown;
  - (h) procedures to recover from any anomalies or failures during the launch;
  - (i) for a connected return—the procedures for recovery of each returned space object and for its removal from the place that it lands.
- (3) The plan must include the following:
- (a) arrangements for reporting to the Minister on a launch and any connected return;
  - (b) arrangements to ensure that personnel who have duties or functions in connection with a launch or launches and any connected return are properly prepared;
  - (c) arrangements for responding to any problem encountered in conducting a launch or connected return and for taking action to resolve it;
  - (d) a statement identifying all hazardous ground operations associated with a launch or connected return, and a description of the procedures to manage those operations;
  - (e) communications arrangements for a launch and any connected return, including the following:
    - (i) launch area communications;
    - (ii) communications from drop zones to the launch area;
    - (iii) telemetry communications (including the radio frequencies to be used);
    - (iv) emergency communications;
  - (f) procedures for managing any change to a payload, including addressing the effect of the change on the performance and stability of the launch vehicle;
  - (g) the system to be used for:
    - (i) making and keeping records in relation to the operation of the launch vehicle; and
    - (ii) maintaining documentation (such as manuals and procedures) relating to the operation of the launch vehicle;
  - (h) arrangements for maintaining the launch vehicle, including the system for recording scheduled and unscheduled maintenance.
- (4) The plan must include a timeline for the launch and flight that identifies all safety-critical events.

## **52 Risk hazard analysis**

- (1) The application must include a risk hazard analysis for each launch and any connected return.
- (2) The analysis must:



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- (a) be performed by a suitably qualified expert who is approved by the Minister and is not a related party of the applicant; and
  - (b) fall within the launch safety standards set out in the Flight Safety Code.
- (3) The application must describe the methodology, assumptions and data used in the analysis.
- (4) The methodology must apply the launch vehicle probability of failure set out in the risk hazard analysis methodology in the Flight Safety Code.
- (5) If the methodology used differs from the risk hazard analysis methodology in the Flight Safety Code in any other respect, the application must:
- (a) describe the methodology used in a form that can conveniently be assessed against the methodology in the Flight Safety Code; and
  - (b) set out each difference between the methodology used and the methodology in the Flight Safety Code; and
  - (c) demonstrate, having regard to those differences, that the methodology is technically sound.
- (6) The application must describe any software used to carry out the analysis, including:
- (a) a description of the system for:
    - (i) making and keeping records and data relating to the operation of the software; and
    - (ii) maintaining documentation (such as manuals) relating to the operation of the software; and
  - (b) for software that is not a generally available commercial product:
    - (i) who developed the software; and
    - (ii) how the software operates to implement the methodology used; and
    - (iii) how the software was tested and the results of testing; and
    - (iv) who validated the software and how it was validated.

### **53 Flight safety plan**

- (1) The application must include a flight safety plan for the launch or series of launches and any connected return.
- (2) The plan must include the following:
- (a) the strategies and arrangements to be used by the applicant to ensure that the launch or launches, the operation of the launch vehicle on the flight path and any connected return will be conducted:
    - (i) in a way that reduces the level of risk to third parties to as low as is reasonably practicable; and
    - (ii) within the launch safety standards set out in the Flight Safety Code;
  - (b) arrangements for reporting to the Minister any changes in:
    - (i) the arrangements for conducting the launch or launches and any connected return; or
    - (ii) the assumptions and data used in the risk hazard analysis for each launch and connected return;

- (c) arrangements for subsequent reporting to the Minister on the compliance of the launch or launches, the operation of the launch vehicle on the flight path and any connected return with:
  - (i) the launch safety standards; and
  - (ii) the assumptions and data used in the risk hazard analysis for each launch and connected return.
- (3) The application must include written confirmation by a suitably qualified expert, who is approved by the Minister and is not a related party of the applicant, that the launch or launches, the operation of the launch vehicle on the flight path and any connected return will fall within the launch safety standards if carried out in accordance with the flight safety plan.

#### **54 Debris mitigation strategy**

- (1) The strategy for debris mitigation in the application must be based on an internationally recognised guideline or standard for debris mitigation, and identify the guideline or standard being used.

Note: Subsection 34(2) of the Act requires an application for the grant of an Australian launch permit to include a strategy for debris mitigation.
- (2) The strategy must describe any mitigation measures planned for orbital debris arising from the proposed launch or launches (including from payloads).

Note: Examples of appropriate measures include measures to address the following:

  - (a) how debris may be limited during normal operations;
  - (b) how the potential for break-ups during operational phases will be minimised;
  - (c) how the probability of accidental collision in orbit will be limited;
  - (d) how the potential for post-mission break-ups as a result of stored energy will be minimised;
  - (e) how the long-term presence of payloads and launch vehicle orbital stages in the low-earth orbit region or in geosynchronous earth orbit will be limited after the end of the mission.
- (3) The strategy must include an orbital debris assessment based on an internationally recognised model.

#### **55 Environment**

For each launch, the application must include one of the following (whichever is applicable to the launch):

- (a) evidence that the environmental impact of the launch and any connected return is addressed by the environmental plan of the licensed launch facility from which the launch is proposed;
- (b) information about environmental approvals required for the launch under any other law of the Commonwealth or a law of a State or Territory;
- (c) an assessment of the likely impact of the launch and any connected return on the environment, and information on how any adverse effects on the environment are to be monitored and mitigated.

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### 56 Technology security

- (1) The application must include a technology security plan relating to the launch or series of launches and any connected return.
- (2) The plan must include the following:
  - (a) arrangements and procedures for safeguarding the technology to be used in conducting the launch or launches and any connected return and in operating the launch vehicle, including:
    - (i) procedures to prevent unauthorised people from having access to the technology; and
    - (ii) the cybersecurity strategy to be used;
  - (b) if there is in force an agreement of any kind between Australia and another country that relates to safeguarding all or part of the technology—information on how the plan ensures that Australia gives effect to its obligations under the agreement.
- (3) The application must include a written assessment of the adequacy of the cybersecurity strategy in the plan by a person with suitable qualifications and experience who is not a related party of the applicant.

### 57 Insurance/financial requirements

The application must include, for each launch or connected return:

- (a) evidence of the capacity of the applicant to satisfy the insurance/financial requirements for the launch or return; and
- (b) if the amount for which the applicant is providing the evidence mentioned in paragraph (a) for the launch or return is less than the amount specified for the launch or return in rules made for the purposes of paragraph 48(4)(a) of the Act:
  - (i) the calculations used in the determination of the amount under paragraph 48(4)(b) of the Act for the launch or return; and
  - (ii) the name of the person who made the calculations mentioned in subparagraph (i).

Note 1: Under subsection 47(2) of the Act, the holder of an Australian launch permit covering a launch or return satisfies the insurance/financial requirements for the launch or return if:

- (a) throughout the liability period for the launch or return, the insurance requirements in section 48 of the Act are satisfied; or
- (b) the holder has, in accordance with rules made for the purposes of paragraph 47(2)(b) of the Act, shown direct financial responsibility for the launch or return for an amount not less than the amount that would otherwise have been applicable under subsection 48(4) of the Act for the launch or return.

Note 2: Under subsection 48(4) of the Act, the total insurance, for each launch or return concerned, must be for an amount at least equal to the lesser of the following amounts:

- (a) the amount specified in the rules for the purposes of paragraph 48(4)(a) of the Act (which must not exceed \$100 million);
- (b) if the rules set out a method of determining an amount for the purposes of paragraph 48(4)(b) of the Act—the amount determined using that method.

Note 3: See the *Space (Launches and Returns) (Insurance) Rules 2019* for the matters mentioned in paragraphs 47(2)(b) and 48(4)(a) and (b) of the Act.

## **58 Contracts**

The application must include copies of the contracts that the applicant has entered into, and information on contracts that the applicant proposes to enter into, for the purpose of the launch or launches and any connected return, including the following:

- (a) any contracts for use or lease of facilities;
- (b) any contracts for others to undertake activities connected with a launch or return;
- (c) any contracts for carrying payloads.

## **59 Outstanding approvals**

The application must include the following:

- (a) a list of all activities in relation to the launch or launches and any connected return for which an approval (however described) is required under any other Commonwealth law or law of a State or Territory but not yet obtained;
- (b) for each such activity, arrangements (including the time frame) for obtaining the required approval.

## **60 Matters to be verified**

The application must include the following:

- (a) a list of matters mentioned in the launch management plan or technology security plan that are yet to be verified or validated;
- (b) for each such matter, arrangements (including the time frame) for obtaining the verification or validation.

## **61 Application may include additional information**

The application, and any document required to be included in the application, may include any other information that is relevant to demonstrating whether the criteria in subsection 28(3) of the Act for granting an Australian launch permit to the applicant are met (including the criteria prescribed by Division 1 of this Part).

## **62 Application may be updated**

The applicant may, before the Minister's decision whether to grant an Australian launch permit to the applicant, update a part of the application (for example, to update information that is no longer correct or to change the plans for conducting a launch).

## **Division 4—Application for variation of permit**

### **63 Variation of launch site or permit conditions**

- (1) For the purposes of section 34 of the Act, the holder of an Australian launch permit may apply to the Minister for:
  - (a) the launch facility or aircraft specified in the permit to be varied; or
  - (b) the conditions of the permit to be varied.
- (2) The application must include:
  - (a) a description of the variation the holder is requesting; and
  - (b) the reason for requesting the variation.
- (3) The application may include any supporting material the holder believes will assist the Minister in deciding the application.

### **64 Extension of permit period**

- (1) The holder of an Australian launch permit may ask the Minister to extend the period of the permit under subsection 29(3) of the Act.
- (2) The request must include:
  - (a) the period of extension being requested; and
  - (b) the reason for requesting the extension.
- (3) The request may include any supporting material the holder believes will assist the Minister in deciding whether to extend the period of the permit.

## **Division 5—Application for transfer of permit**

### **65 Purpose of Division**

For the purposes of section 34 of the Act, this Division sets out requirements for an application for the transfer of an Australian launch permit.

### **66 Application to be made by transferee**

The application must be made by the person to whom it is proposed to transfer the permit.

### **67 Application must be in writing and in English**

- (1) The application must be in writing and, subject to subsection (2), in English.
- (2) If a document required to be included in the application is not in English, the application must also include an English language translation of the document.

### **68 Statement from current holder of permit**

The application must include a statement by the current holder of the permit explaining why the transfer is being sought.

### **69 Other contents of transfer application**

- (1) The application must include all of the material required to be included in an application by sections 44 to 60.
- (2) A requirement for the application to include a plan or debris mitigation strategy may be met by:
  - (a) providing a copy of the current version of the plan, or a copy of the strategy, of the current holder of the permit; and
  - (b) including a statement that the applicant proposes to conduct the launch or launches and any connected return under the same plan or with the same strategy.
- (3) A requirement for the application to include any other information or material may be met by providing a copy of the information or material that was included in the application made by the current holder of the permit, if the information or material is still correct.
- (4) The application, and any document required to be included in the application, may include any other information that is relevant to demonstrating whether the criteria in subsection 28(3) of the Act for granting an Australian launch permit to the applicant are met (including the criteria prescribed by Division 1 of this Part).

Note: Subsection 32(1) of the Act provides that the Minister may transfer an Australian launch permit to another person if the Minister could grant the permit to the other person under section 28 of the Act.

**Part 3** Australian launch permits

**Division 5** Application for transfer of permit

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**70 Application may be updated**

The applicant may, before the Minister's decision whether to transfer an Australian launch permit to the applicant, update a part of the application (for example, to update information that is no longer correct or to change the plans for conducting a launch).

## **Part 4—Overseas payload permits**

### **Division 1—Additional criteria for grant of overseas payload permit**

#### **71 Additional criteria**

- (1) For the purposes of paragraph 46B(2)(d) of the Act, the criteria in this section are prescribed.
- (2) Any part of the space object or objects concerned that is owned by the applicant (or the whole object if the applicant owns the whole object) is not and does not contain a nuclear weapon or weapon of mass destruction of any other kind.
- (3) Any part of the space object or objects concerned that is owned by the applicant (or the whole object if the applicant owns the whole object) does not contain a nuclear power source unless the Minister's written approval has first been obtained.



## Division 2—Application for grant of permit

### 72 Purpose of Division

For the purposes of section 46G of the Act, this Division sets out requirements for an application for the grant of an overseas payload permit.

### 73 Application must be in writing and in English

- (1) The application must be in writing and, subject to subsection (2), in English.
- (2) If a document required to be included in the application is not in English, the application must also include an English language translation of the document.

### 74 Information about applicant

The application must include the following:

- (a) the name of the applicant;
- (b) the name, position and contact details of an individual who will act as contact officer for the purposes of dealing with the application;
- (c) the applicant's ABN (if any);
- (d) if the applicant is a company registered under the *Corporations Act 2001*—the applicant's ACN;
- (e) information about which persons or entities have ownership, control or direction of the applicant, including the nationality of those persons or entities.

Note: For paragraph (e), examples include a corporation that the applicant is a subsidiary of, significant shareholders in the applicant, or the government administering the applicant.

### 75 Organisational structure and personnel

- (1) The application must include:
  - (a) a description of the organisational structure of the applicant, including the chain of command within the structure and the duties and responsibilities of each position in the chain of command; and
  - (b) the following information about each individual described in subsection (2):
    - (i) the individual's name, date of birth and place of birth;
    - (ii) the address of the individual's usual place of residence;
    - (iii) the individual's relevant qualifications and experience;
    - (iv) how long the individual has occupied the individual's current position.
- (2) Paragraph (1)(b) applies to the following individuals:
  - (a) the applicant's chief executive officer or equivalent;
  - (b) each individual in a position within the organisational structure of the applicant that has or would have authority or oversight in relation to

- building a payload proposed to be launched or integrating it with a launch vehicle;
- (c) each individual in a position within the organisational structure of the applicant that would have authority or oversight in relation to communicating with a payload after it is launched.

## **76 Information about launch**

- (1) The application must include the following information for each launch:
- (a) a description of the purpose of the launch;
  - (b) the facility or place from which the launch is proposed to be conducted, including the latitude, longitude and elevation of the launch;
  - (c) the proposed launch vehicle;
  - (d) the launch period and launch window.
- (2) However, if the information in paragraph (1)(d) is not available to the applicant and the application relates to a series of launches, the application may instead include:
- (a) a period during which the series is proposed to occur; and
  - (b) the estimated launch period and launch window for each launch.

## **77 Information about payload**

- (1) The application must include the following information in relation to each payload:
- (a) a description of the payload and its purpose;
  - (b) the manufacturer of each subsystem of the payload and the country of manufacture;
  - (c) the proposed trajectory and (if applicable) orbit of the payload;
  - (d) whether the payload is intended to be returned, and if so:
    - (i) the approximate timing of the return; and
    - (ii) the intended location of the return; and
    - (iii) a description of the intended return process;
  - (e) the information required for the registration of the payload under paragraph 1 of Article IV of the Registration Convention.
- (2) The application must include:
- (a) a declaration by the applicant that any part of the payload in which the applicant has an ownership interest (or the whole payload if the applicant has an ownership interest in the whole payload) is not, and does not contain, a nuclear weapon or weapon of mass destruction of any other kind; and
  - (b) an undertaking from the applicant that the applicant will:
    - (i) not operate the payload in a manner that causes Australia to be liable for any damage under the Liability Convention; and
    - (ii) not operate the payload in a manner that the owner knows, or ought reasonably to know, will negatively affect the national security of Australia.

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- (3) If the payload contains a nuclear power source and the Minister's written approval has been obtained for it to do so, the application must include a copy of the approval.

### **78 Launch safety**

- (1) The application must include the following:
- (a) the safety requirements that will apply to each proposed launch in the country where the launch would take place;
  - (b) all publicly available information about launches or attempted launches in the past 5 years at the facility or place from which the launch is proposed to be conducted, using the kind of launch vehicle proposed to be used.
- (2) However, subsection (1) does not apply if the launch is proposed to be conducted at a launch facility on the standard launch facility list published by the Department, as existing from time to time.

### **79 Debris mitigation strategy**

- (1) The strategy for debris mitigation in the application must be based on an internationally recognised guideline or standard for debris mitigation, and identify the guideline or standard being used.

Note: Subsection 46G(2) of the Act requires an application for the grant of an overseas payload permit to include a strategy for debris mitigation.

- (2) The strategy must describe any mitigation measures planned for orbital debris arising from the proposed launch or launches (including from payloads).

Note: Examples of appropriate measures include measures to address the following:

- (a) how debris may be limited during normal operations;
- (b) how the potential for break-ups during operational phases will be minimised;
- (c) how the probability of accidental collision in orbit will be limited;
- (d) how the potential for post-mission break-ups as a result of stored energy will be minimised;
- (e) how the long-term presence of payloads and launch vehicle orbital stages in the low-earth orbit region or in geosynchronous earth orbit will be limited after the end of the mission.

- (3) The strategy must include an orbital debris assessment.

### **80 Contracts**

The application must include copies of the contracts that the applicant has entered into, and information on contracts that the applicant proposes to enter into, for the purpose of the launch or launches, including the following:

- (a) any contracts with the persons undertaking a launch;
- (b) any contracts for others to undertake activities connected with a launch;
- (c) any contracts for use or lease of facilities.

### **81 Application may include additional information**

The application, and any document required to be included in the application, may include any other information that is relevant to demonstrating whether the

criteria in subsection 46B(2) of the Act for granting an overseas payload permit to the applicant are met (including the criteria prescribed by Division 1 of this Part).

## **82 Application may be updated**

The applicant may, before the Minister's decision whether to grant an overseas payload permit to the applicant, update a part of the application (for example, to update information that is no longer correct).

## **Division 3—Application for variation of permit**

### **83 Variation of permit**

- (1) For the purposes of section 46G of the Act, the holder of an overseas payload permit may apply to the Minister for:
  - (a) the launch facility or place specified in the permit to be varied; or
  - (b) the launch vehicle specified in the permit to be varied; or
  - (c) the conditions of the permit to be varied.
- (2) The application must include:
  - (a) a description of the variation the holder is requesting; and
  - (b) the reason for requesting the variation.
- (3) The application may include any supporting material the holder believes will assist the Minister in deciding the application.

### **84 Extension of permit period**

- (1) The holder of an overseas payload permit may ask the Minister to extend the period of the permit under subsection 46C(3) of the Act.
- (2) The request must include:
  - (a) the period of extension being requested; and
  - (b) the reason for requesting the extension.
- (3) The request may include any supporting material the holder believes will assist the Minister in deciding whether to extend the period of the permit.

## **Division 4—Application for transfer of permit**

### **85 Purpose of Division**

For the purposes of section 46G of the Act, this Division sets out requirements for an application for the transfer of an overseas payload permit.

### **86 Application to be made by transferee**

The application must be made by the person to whom it is proposed to transfer the permit.

### **87 Application must be in writing and in English**

- (1) The application must be in writing and, subject to subsection (2), in English.
- (2) If a document required to be included in the application is not in English, the application must also include an English language translation of the document.

### **88 Statement from current holder of permit**

The application must include a statement by the current holder of the permit explaining why the transfer is being sought.

### **89 Other contents of transfer application**

- (1) The application must include all of the material required to be included in an application by sections 74 to 80.
- (2) The requirement for the application to include a debris mitigation strategy may be met by:
  - (a) providing a copy of the strategy of the current holder of the permit; and
  - (b) including a statement that the applicant proposes to conduct the launch with the same strategy.
- (3) A requirement for the application to include any other information or material may be met by providing a copy of the information or material that was included in the application made by the current holder of the permit, if the information or material is still correct.
- (4) The application, and any document required to be included in the application, may include any other information that is relevant to demonstrating whether the criteria in subsection 46B(2) of the Act for granting an overseas payload permit to the applicant are met (including the criteria prescribed by Division 1 of this Part).

Note: Subsection 46E(1) of the Act provides that the Minister may transfer an overseas payload permit to another person if the Minister could grant the permit to the other person under section 46B of the Act.

**Part 4** Overseas payload permits

**Division 4** Application for transfer of permit

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**90 Application may be updated**

The applicant may, before the Minister's decision whether to transfer an overseas payload permit to the applicant, update a part of the application (for example, to update information that is no longer correct).

## **Part 5—Return authorisations**

### **Division 1—Additional criteria for grant of return authorisation**

#### **91 Additional criteria**

- (1) For the purposes of paragraph 46L(2)(f) of the Act, the criteria in this section are prescribed.
- (2) However, the criteria in this section do not apply in relation to a return authorisation if:
  - (a) each return is to a place or area outside Australia; and
  - (b) each space object to be returned will be carried as a payload by another space object that does not require a return authorisation.
- (3) Each return must be as effective and safe as is reasonably practicable having regard to the purpose of the return, the design of the space object and the Flight Safety Code.
- (4) The risk hazard analysis for each return must be consistent with the Flight Safety Code.
- (5) The applicant must have:
  - (a) for the return of one or more space objects to a place or area in Australia—appropriate environmental approvals, or an adequate environment plan if no environmental approvals are required, for conducting the return or series of returns; or
  - (b) for the return of one or more space objects to a place or area outside Australia—an adequate environment plan for conducting the return or series of returns.



## **Division 2—Application for giving of authorisation**

### **Subdivision A—Requirements for standard applications**

#### **92 Purpose of Subdivision**

For the purposes of section 46Q of the Act, this Subdivision sets out requirements for a standard return application.

#### **93 Application must be in writing and in English**

- (1) The application must be in writing and, subject to subsection (2), in English.
- (2) If a document required to be included in the application is not in English, the application must also include an English language translation of the document.

#### **94 Information about applicant**

The application must include the following:

- (a) the name of the applicant;
- (b) the name, position and contact details of an individual who will act as contact officer for the purposes of dealing with the application;
- (c) the applicant's ABN (if any);
- (d) if the applicant is a company registered under the *Corporations Act 2001*—the applicant's ACN;
- (e) information about which persons or entities have ownership, control or direction of the applicant, including the nationality of those persons or entities.

Note: For paragraph (e), examples include a corporation that the applicant is a subsidiary of, significant shareholders in the applicant, or the government administering the applicant.

#### **95 Organisational structure and personnel**

- (1) The application must include:
  - (a) a description of the organisational structure of the applicant, including the chain of command within the structure and the duties and responsibilities of each position in the chain of command; and
  - (b) the following information about each individual described in subsection (2) (whether or not the individual is part of the applicant's organisational structure):
    - (i) the individual's name, date of birth and place of birth;
    - (ii) the address of the individual's usual place of residence;
    - (iii) the individual's relevant qualifications and experience;
    - (iv) how long the individual has occupied the individual's current position.
- (2) Paragraph (1)(b) applies to the following individuals:
  - (a) the applicant's chief executive officer or equivalent;

- (b) each individual in a position that would have authority to direct the conduct of a return;
- (c) each individual in a position that would have authority to direct operation of the facility or premises from which a return is proposed be conducted or a part of the facility or premises;
- (d) each individual in a position that would have authority or oversight in relation to the retrieval of a returned space object;
- (e) each individual in a position within the organisational structure of the applicant that would have authority to direct operation or maintenance of the ground systems of the facility or premises from which a return is proposed to be conducted;
- (f) each individual in a position that would have authority or oversight in relation to tracking or communicating with a space object during its return;
- (g) each individual who had authority or oversight in relation to preparing the technology security plan included in the application (as required by section 102);
- (h) each individual in a position that would have a role in implementing or monitoring the technology security plan.

## **96 Information about return of space object**

The application must include the following information in relation to each space object to be returned:

- (a) a description of the space object and the purpose for which it was launched;
- (b) the manufacturer of the object and the country of manufacture;
- (c) an explanation as to why the object is to be returned;
- (d) the proposed return place or area;
- (e) the return period and return window;
- (f) information on the predicted trajectory of the object or of parts of the object, including parts of the object expected to burn up on re-entry;
- (g) a list of the items (that is, parts of the object) that are expected to land.

## **97 Return management plan**

- (1) The application must include a return management plan for managing the return or series of returns.
- (2) The plan must include the applicant's arrangements and procedures for conducting the return or returns, including the following:
  - (a) arrangements to ensure the safety of associated ground operations;
  - (b) procedures for the recovery of a returned space object after landing;
  - (c) contingency plans for recovery of a returned space object in difficult circumstances (such as when weather conditions are adverse, the signal from the object is lost or the location of the object is unknown).
- (3) The plan must include the following:
  - (a) a timeline of the return or returns showing key events and decision points, including opportunities to abort a return;
  - (b) for each opportunity to abort, the consequences of a decision to abort;

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- (c) information on the equipment required for conducting the return or returns, including in the control centre and operations base;
- (d) information on the logistics for conducting the return or returns, including establishment of the operations base, vehicle support and communications support;
- (e) arrangements for reporting on the return or returns to the Minister;
- (f) arrangements to ensure that personnel who have duties or functions in connection with a return are properly prepared;
- (g) arrangements for responding to any problem encountered in conducting a return and for taking action to resolve it;
- (h) a statement identifying all hazardous ground operations associated with a return, and a description of the procedures to manage those operations;
- (i) communications arrangements for the return or returns, including the following:
  - (i) return area communications;
  - (ii) telemetry communications (including the radio frequencies to be used);
  - (iii) emergency communications;
- (j) information on tracking requirements and procedures;
- (k) information on meteorological requirements for the return or returns and an advanced forecast for the return period;
- (l) the system to be used for:
  - (i) making and keeping records in relation to the return or returns; and
  - (ii) maintaining documentation relating to the return or returns.
- (m) the security arrangements for the return or returns, including both physical security and cybersecurity;
- (n) if a country other than Australia is a launching state for a space object being returned—a description of the licensing or approval arrangements of the country relevant to the object, including names and contact details of relevant regulatory authorities;
- (o) information on the personnel and equipment necessary to recover a returned space object safely, efficiently and in an environmentally responsible manner;
- (p) information on customs and quarantine clearance that will be required for a returned space object and the procedures for obtaining the required clearance;
- (q) the activities that will be undertaken once the object is recovered, including any disassembly activities and environmental clearance of the site.

**98 Risk hazard analysis**

- (1) The application must include a risk hazard analysis for each return.
- (2) The analysis must:
  - (a) be performed by a suitably qualified expert who is approved by the Minister and is not a related party of the applicant; and
  - (b) be in accordance with the Flight Safety Code.

- (3) The application must describe the methodology, assumptions and data used in the analysis.
- (4) The methodology must apply the space object probability of failure set out in the risk hazard analysis methodology in the Flight Safety Code.
- (5) If the methodology used differs from the risk hazard analysis methodology in the Flight Safety Code in any other respect, the application must:
  - (a) describe the methodology used in a form that can conveniently be assessed against the methodology in the Flight Safety Code; and
  - (b) set out each difference between the methodology used and the methodology in the Flight Safety Code; and
  - (c) demonstrate, having regard to those differences, that the methodology is technically sound.
- (6) The application must describe any software used to carry out the analysis, including:
  - (a) a description of the system for:
    - (i) making and keeping records and data relating to the operation of the software; and
    - (ii) maintaining documentation (such as manuals) relating to the operation of the software; and
  - (b) for software that is not a generally available commercial product:
    - (i) who developed the software; and
    - (ii) how the software operates to implement the methodology used; and
    - (iii) how the software was tested and the results of testing; and
    - (iv) who validated the software and how it was validated.

## **99 Return safety plan**

- (1) The application must include a return safety plan for the return or series of returns.
  - (2) The plan must include the following:
    - (a) the strategies and arrangements to be used by the applicant to ensure that the return or returns will be conducted:
      - (i) in a way that reduces the level of risk to third parties to as low as is reasonably practicable; and
      - (ii) in accordance with the Flight Safety Code;
    - (b) arrangements for reporting to the Minister any changes in:
      - (i) the arrangements for conducting the return or returns; or
      - (ii) the data used in the risk hazard analysis for each return;
    - (c) arrangements for subsequent reporting to the Minister on the compliance of the return or returns with:
      - (i) the Flight Safety Code; and
      - (ii) the assumptions and data used in the risk hazard analysis for each return.
  - (3) The application must include written confirmation by a suitably qualified expert, who is approved by the Minister and is not a related party of the applicant, that
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the return will be in accordance with the Flight Safety Code if carried out in accordance with the return safety plan.

### 100 Emergency plan

- (1) The application must include an emergency plan for responding to:
  - (a) accidents and incidents involving a returning space object; and
  - (b) any other kind of emergency at or near the facility or premises from which a return is proposed be conducted.

Note: The terms *accident* and *incident* are defined in sections 85 and 86 of the Act.

- (2) The plan must include the following:
  - (a) a description of actions to be taken by the persons responsible for responding to an accident, incident or other emergency;
  - (b) a list of the authorities or persons to be notified by the applicant in relation to an accident, incident or other emergency;
  - (c) a description of the arrangements for coordinating any action to be taken in relation to the accident, incident or other emergency with those authorities or persons;
  - (d) evacuation procedures for an accident, incident or other emergency;
  - (e) details of exercises to test the plan before the return, and arrangements to report the results of those exercises to the Agency;
  - (f) arrangements for reviewing the effectiveness of responses in emergencies and exercises, and arrangements to report the results of any review to the Agency;
  - (g) procedures to be followed, in the case of accident, for:
    - (i) locating the space vehicle or its wreckage; and
    - (ii) in accordance with any necessary permission of the Minister or Investigator under the Act—recovering and removing the space object or its wreckage;
  - (h) the equipment and facilities necessary for responding to an accident, incident or other emergency;
  - (i) arrangements to ensure the applicant would meet the applicant's obligations under any law of the Commonwealth or law of a State or Territory in the event of an accident, incident or other emergency or when conducting exercises to test the plan.

### 101 Environment

#### *Standard return application for returns in Australia*

- (1) If the application is for the return of one or more space objects to a place or area in Australia, the application must include information about environmental approvals required for the return or returns under any other law of the Commonwealth or a law of a State or Territory.
- (2) If no environmental approvals are required for a return in Australia, the application must include an environmental plan that includes the following:
  - (a) an assessment of the likely impact of conducting the return or returns on the environment;

- (b) arrangements for monitoring and mitigating any adverse effects on the environment from conducting the return or returns;
- (c) mechanisms for reporting on the implementation of those arrangements and for reviewing the plan.

*Standard return application for returns outside Australia*

- (3) If the application is for the return of one or more space objects to a place or area outside Australia, the application must include an environmental plan.
- (4) If an environmental plan is required by the country in which the space objects are proposed to be returned, the requirements of subsection (3) may be met by including a copy of the plan in the application.

## **102 Technology security**

- (1) The application must include a technology security plan relating to the return or series of returns.
- (2) The plan must include the following:
  - (a) arrangements and procedures for safeguarding the technology to be used in conducting the return or returns, including:
    - (i) procedures to prevent unauthorised people from having access to the technology; and
    - (ii) the cybersecurity strategy to be used;
  - (b) if there is in force an agreement of any kind between Australia and another country that relates to safeguarding all or part of the technology— information on how the plan ensures that Australia gives effect to its obligations under the agreement.
- (3) The application must include a written assessment of the adequacy of the cybersecurity strategy in the plan by a person with suitable qualifications and experience who is not a related party of the applicant.

## **103 Insurance/financial requirements**

The application must include, for each return:

- (a) evidence of the capacity of the applicant to satisfy the insurance/financial requirements for the return; and
- (b) if the amount for which the applicant is providing the evidence mentioned in paragraph (a) for the return is less than the amount specified for the return in rules made for the purposes of paragraph 48(4)(a) of the Act:
  - (i) the calculations used in the determination of the amount under paragraph 48(4)(b) of the Act for the return; and
  - (ii) the name of the person who made the calculations mentioned in subparagraph (i).

Note 1: Under subsection 47(2) of the Act, the holder of an Australian launch permit covering a launch or return satisfies the insurance/financial requirements for the launch or return if:

- (a) throughout the liability period for the launch or return, the insurance requirements in section 48 of the Act are satisfied; or

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- (b) the holder has, in accordance with rules made for the purposes of paragraph 47(2)(b) of the Act, shown direct financial responsibility for the launch or return for an amount not less than the amount that would otherwise have been applicable under subsection 48(4) of the Act for the launch or return.

- Note 2: Under subsection 48(4) of the Act, the total insurance, for each launch or return concerned, must be for an amount at least equal to the lesser of the following amounts:
- (a) the amount specified in the rules for the purposes of paragraph 48(4)(a) of the Act (which must not exceed \$100 million);
  - (b) if the rules set out a method of determining an amount for the purposes of paragraph 48(4)(b) of the Act—the amount determined using that method.

- Note 3: See the *Space (Launches and Returns) (Insurance) Rules 2019* for the matters mentioned in paragraphs 47(2)(b) and 48(4)(a) and (b) of the Act.

**104 Contracts**

The application must include copies of the contracts that the applicant has entered into, and information on contracts that the applicant proposes to enter into, for the purpose of the return or series of returns, including the following:

- (a) any contracts for use or lease of facilities;
- (b) any contracts for others to conduct a return or undertake activities connected with a return;
- (c) any contracts for dealing with a space object after it is returned.

**105 Outstanding approvals**

The application must include the following:

- (a) a list of all activities in relation to the return or series of returns for which an approval (however described) is required under any other Commonwealth law or law of a State or Territory but not yet obtained;
- (b) for each such activity, arrangements (including the time frame) for obtaining the required approval.

**106 Matters to be verified**

The application must include the following:

- (a) a list of matters mentioned in the return management plan or technology security plan that are yet to be verified or validated;
- (b) for each such matter, arrangements (including the time frame) for obtaining the verification or validation.

**107 Application may include additional information**

An application, and any document required to be included in the application, may include any other information that is relevant to demonstrating whether the criteria in subsection 46L(2) of the Act for granting a return authorisation to the applicant are met (including, if applicable, the criteria prescribed by Division 1 of this Part).

**108 Application may be updated**

The applicant may, before the Minister's decision whether to give a return authorisation to the applicant, update a part of the application (for example, to

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update information that is no longer correct or to change the plans for conducting a return).

## **Subdivision B—Requirements for overseas payload return applications**

### **109 Purpose of Subdivision**

For the purposes of section 46Q of the Act, this Subdivision sets out requirements for an overseas payload return application.

### **110 Application must be in writing and in English**

- (1) The application must be in writing and, subject to subsection (2), in English.
- (2) If a document required to be included in the application is not in English, the application must also include an English language translation of the document.

### **111 Information about applicant**

The application must include the following:

- (a) the name of the applicant;
- (b) the name, position and contact details of an individual who will act as contact officer for the purposes of dealing with the application;
- (c) the applicant's ABN (if any);
- (d) if the applicant is a company registered under the *Corporations Act 2001*—the applicant's ACN;
- (e) information about which persons or entities have ownership, control or direction of the applicant, including the nationality of those persons or entities.

Note: For paragraph (e), examples include a corporation that the applicant is a subsidiary of, significant shareholders in the applicant, or the government administering the applicant.

### **112 Organisational structure and personnel**

- (1) The application must include:
  - (a) a description of the organisational structure of the applicant, including the chain of command within the structure and the duties and responsibilities of each position in the chain of command; and
  - (b) the following information about each individual described in subsection (2):
    - (i) the individual's name, date of birth and place of birth;
    - (ii) the address of the individual's usual place of residence;
    - (iii) the individual's relevant qualifications and experience;
    - (iv) how long the individual has occupied the individual's current position.
- (2) Paragraph (1)(b) applies to the following individuals:
  - (a) the applicant's chief executive officer or equivalent;



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- (b) each individual in a position within the organisational structure of the applicant that would have authority to direct the conduct of a return;
- (c) each individual in a position within the organisational structure of the application that would have authority or oversight in relation to the retrieval of a space object that is to be returned as a payload.

### 113 Information about return of space object

The application must include the following information in relation to each space object to be returned:

- (a) a description of the space object and the purpose for which it was launched;
- (b) an explanation as to why the object is to be returned;
- (c) the proposed return place or area;
- (d) the return period and return window;
- (e) the proposed return vehicle;
- (f) if known, information on the predicted trajectory of the return vehicle or of parts of the return vehicle, including parts of the return vehicle expected to burn up on re-entry.

### 114 Return safety

The application must include the following:

- (a) the safety requirements that will apply to each proposed return in the country where the return would take place;
- (b) information about returns or attempted returns in the past 5 years conducted by the person or organisation that would be responsible for conducting each proposed return, using the kind of return vehicle proposed to be used.

### 115 Contracts

The application must include copies of the contracts that the applicant has entered into, and information on contracts that the applicant proposes to enter into, for the purpose of the return or series of returns, including the following:

- (a) any contracts for use or lease of facilities;
- (b) any contracts for others to conduct a return or undertake activities connected with a return;
- (c) any contracts for dealing with a space object after it is returned.

### 116 Application may include additional information

An application, and any document required to be included in the application, may include any other information that is relevant to demonstrating whether the criteria in subsection 46L(2) of the Act for granting a return authorisation to the applicant are met (including, if applicable, the criteria prescribed by Division 1 of this Part).

### **117 Application may be updated**

The applicant may, before the Minister's decision whether to give a return authorisation to the applicant, update a part of the application (for example, to update information that is no longer correct or to change the plans for conducting a return).

### **Division 3—Application for variation of authorisation**

#### **118 Variation of authorisation conditions**

- (1) For the purposes of section 46Q of the Act, the holder of a return authorisation may apply to the Minister for:
  - (a) the place or area of return specified in the authorisation to be varied; or
  - (b) the conditions of the authorisation to be varied.
- (2) The application must include:
  - (a) a description of the variation the holder is requesting; and
  - (b) the reason for requesting the variation.
- (3) The application may include any supporting material the holder believes will assist the Minister in deciding the application.

## **Part 6—Authorisation certificates**

### **119 Matters to which the Minister must have regard**

For the purposes of subsection 46U(2) of the Act, the following are matters to which the Minister must have regard in deciding whether to issue an authorisation certificate covering specified conduct:

- (a) whether the person applying for the authorisation certificate is competent to carry out the conduct;
- (b) whether there is a risk that the conduct might expose the Commonwealth to liability for damage caused by the conduct;
- (c) whether the conduct would represent an unsatisfactory risk of liability to the Commonwealth if insurance is not held to cover the applicant or the Commonwealth, or both;
- (d) whether the probability of the conduct causing substantial harm to public health or public safety or causing substantial damage to property is as low as reasonably practicable;
- (e) whether the conduct involves a nuclear weapon or a weapon of mass destruction of any other kind;
- (f) whether, for reasons relevant to the security, defence or international relations of Australia, the authorisation certificate should not be issued;
- (g) whether it would be more appropriate for an Australian launch permit, Australian high power rocket permit, overseas payload permit or return authorisation to cover the conduct.

## Part 7—Launch Safety Officers

### 120 Notice by Launch Safety Officer of launch or return of a space object

- (1) For the purposes of paragraph 51(a) of the Act, this section prescribes how the Launch Safety Officer for a launch or return of a space object is to give notice of the launch or return.

#### *Space object launches*

- (2) For the launch of a space object, the Launch Safety Officer for the launch must:
- (a) not later than 30 days before the launch, give written notice of the launch to each relevant person; and
  - (b) at least 2 days but not more than 10 days before the launch, give written notice to each relevant person of:
    - (i) the day the launch is scheduled to take place and the launch window on that day; and
    - (ii) any subsequent days, and the launch window on each of those days, that the launch may be attempted if it does not occur on the scheduled day; and
  - (c) if there are persons located (continuously, periodically or occasionally) within a 50 km radius (the **launch radius**) of the launch facility for the launch:
    - (i) take all reasonable steps to notify persons in the launch radius of the launch, at least 2 days but not more than 10 days before the scheduled day of the launch, in such manner and form as the Launch Safety Officer considers appropriate in the circumstances; and
    - (ii) arrange for notice of the launch to be broadcast, at least 2 days but not more than 10 days before the scheduled day of the launch, on each local radio station (if any) for the launch radius; and
    - (iii) arrange for notice of the launch, including any changes since the notice under subparagraph (ii) was broadcast, to be broadcast, at least 1 hour but not more than 12 hours before the launch window on the scheduled day of the launch, on each local radio station (if any) for the launch radius.
- (3) If the launch does not occur on the scheduled day mentioned in subparagraph (2)(b)(i) and will be attempted on a day (the **new launch day**) mentioned in subparagraph (2)(b)(ii), the Launch Safety Officer:
- (a) must give written notice to each relevant person of the new launch day and the launch window on that day; and
  - (b) must arrange for notice of the launch to be broadcast, at least 1 hour but not more than 12 hours before the launch window on the new launch day, on each local radio station (if any) for the launch radius;
  - (c) may take other steps to notify persons in the launch radius of the launch of the new launch day and the launch window on that day, in such manner and form as the Launch Safety Officer considers appropriate in the circumstances.

*Space object returns*

- (4) For the return of a space object, the Launch Safety Officer for the return must:
- (a) not later than 30 days before the return, give written notice of the return to each relevant person; and
  - (b) if there are persons located (continuously, periodically or occasionally) within a 50 km radius (the *return radius*) of the proposed return place or area:
    - (i) take all reasonable steps to notify persons in the return radius of the return, at least 2 days but not more than 10 days before the return, in such manner and form as the Launch Safety Officer considers appropriate in the circumstances; and
    - (ii) arrange for notice of the return to be broadcast, at least 2 days but not more than 10 days before the return, on each local radio station (if any) for the return radius; and
    - (iii) arrange for notice of the return, including any changes since the notice under subparagraph (ii) was broadcast, to be broadcast, at least 1 hour but not more than 12 hours before the return, on each local radio station (if any) for the return radius.

*Relevant persons*

- (5) For the purposes of subsections (2) to (4), each of the following is a relevant person:
- (a) the Chief Executive Officer of Airservices Australia;
  - (b) the Chief Commissioner of the Australian Transport Safety Bureau;
  - (c) the Chief Executive Officer of the Australian Maritime Safety Authority;
  - (d) the Director of Aviation Safety of the Civil Aviation Safety Authority;
  - (e) the Director-General of Emergency Management Australia;
  - (f) the Director of the United States Strategic Command Combined Space Operations Center;
  - (g) the Secretary of each of the following Departments:
    - (i) the Department administered by the Minister responsible for administering the *Defence Act 1903*;
    - (ii) the Department administered by the Minister responsible for administering the *Diplomatic Privileges and Immunities Act 1967*;
    - (iii) the Department administered by the Prime Minister;
  - (h) the authority or authorities responsible for emergency services in each affected State or Territory;
  - (i) in relation to a launch:
    - (i) the department administered by the Premier of the State, or by the chief minister of the Territory, in which the launch facility for the launch is located; and
    - (ii) the local government authority for the local government area in which the launch facility for the launch is located; and
    - (iii) if any land-based public transport service operates within a 50 km radius of the launch facility for the launch—the operator of that service.

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- (6) For the purposes of paragraph (5)(h), a State or Territory is an affected State or Territory if:
- (a) in relation to the launch of a space object:
    - (i) the launch is in the State or Territory; or
    - (ii) the proposed flight path of the space object passes through the air space over the State or Territory; and
  - (b) in relation to the return of a space object:
    - (i) the proposed return place or area is in the State or Territory; or
    - (ii) the predicted trajectory of the object passes through the air space over the State or Territory.

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## **Part 8—Investigation of accidents**

### **121 Meaning of *accident***

For the purposes of paragraph 85(b) of the Act, the following circumstances are prescribed:

- (a) in relation to a space object launched in accordance with an Australian launch permit or an overseas payload permit—where the destruction of, or damage to, the space object occurs in a manner that is consistent with the stated purpose of the launch (other than when the flight is terminated by operation of the flight safety system);
- (b) in relation to a high power rocket launched in accordance with an Australian high power rocket permit—where the destruction of, or damage to, the high power rocket occurs in a manner that is consistent with the stated purpose of the launch (other than when the flight is terminated by operation of the flight safety system);
- (c) in relation to a space object returned in accordance with a return authorisation—where the destruction of, or damage to, the space object occurs in a manner that is consistent with the stated purpose of the return (other than when the return is terminated by operation of the flight safety system).

### **122 Fees and allowances for persons assisting Investigators**

- (1) For the purposes of subsection 90(2) of the Act, this section prescribes the fees and allowances that a person who gives assistance to an Investigator at the invitation of the Investigator is entitled to be paid.
- (2) The fee payable to a person assisting an Investigator is:
  - (a) if the person is assisting because of the person's occupation and the person is remunerated in that occupation by wages, salary or fees—the amount of wages, salary or fees that would be paid to the person for each day on which the person assists the Investigator; or
  - (b) otherwise—a reasonable amount for each day on which the person assists the Investigator.
- (3) The allowances payable to a person assisting an Investigator are:
  - (a) a reasonable amount for travel between the person's usual place of employment or residence and the place where the person assists the Investigator; and
  - (b) if the person is required to be absent overnight from the person's usual place of residence—a reasonable amount for meals and accommodation.
- (4) The Investigator must decide the amount of a payment under paragraph (2)(b), (3)(a) or (3)(b).
- (5) Applications may be made to the Administrative Appeals Tribunal for review of decisions of an Investigator under subsection (4).



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**123 Fees and allowances for persons required to attend before Investigators**

- (1) For the purposes of subsection 91(7) of the Act, this section prescribes the fees and allowances that a person who attends before an Investigator is entitled to be paid.
  - (2) The fee payable to a person required to attend before an Investigator is:
    - (a) if the person is required to attend because of the person's professional, scientific or other special skill or knowledge and the person is remunerated in that occupation by wages, salary or fees—the amount of wages, salary or fees that are not paid to the person because the person attends before the Investigator; or
    - (b) otherwise—a reasonable amount for each day, or part of a day, on which the person attends before the Investigator.
- Note: If:
- (a) a person is required to attend before the Investigator because of the person's professional, scientific or other special skill or knowledge; and
  - (b) the person is not currently remunerated;
- the amount of the fee that the person is entitled to be paid under paragraph (2)(b) may be higher than the amount of the fee that a person who is required to attend otherwise than because of the person's professional, scientific or other special skill or knowledge is entitled to be paid.
- (3) The allowances payable to a person required to attend before an Investigator are:
    - (a) a reasonable amount for travel between the person's usual place of employment or residence and the place where the person attends before the Investigator; and
    - (b) if the person is required to be absent overnight from the person's usual place of residence—a reasonable amount for meals and accommodation.
  - (4) The Investigator must decide the amount of a payment under paragraph (2)(b), (3)(a) or (3)(b).
  - (5) Applications may be made to the Administrative Appeals Tribunal for review of decisions of an Investigator under subsection (4).

## **Part 9—Miscellaneous**

### **124 Delegation**

- (1) The Minister may, by writing, delegate any of the Minister’s powers or functions under this instrument to:
  - (a) the Secretary of the Department; or
  - (b) the Head of the Agency; or
  - (c) an SES employee, or acting SES employee, in the Department.
- (2) In doing anything under a delegation under this section, the delegate must comply with any directions of the Minister.