



BRIEFING PAPER

Number CBP 8197, 2 February 2018

The Space Industry Bill 2017-2019

By Georgina Hutton

Contents:

1. Summary
2. Background
3. Space Industry Bill
4. Lords consideration
5. Reaction and comment on the Bill
6. Commons second reading and Committee stages
7. Further reading



Contents

1. Summary	3
2. Background	5
2.1 UK Space Sector	5
2.2 'Spaceflight activities': key terminology	5
2.3 Existing legislative framework	6
2.4 Consultation leading up to the Bill	7
3. Space Industry Bill	8
3.1 Outline of the Bill	8
3.2 Clauses in the Space Industry Bill	10
Purpose and overview	10
Establishing a regulator for spaceflight activities	11
Licencing system	11
Range control services	13
Safety and security	13
Enforcement	14
Liabilities, indemnities and insurance	14
Powers to obtain rights over land	16
Offences	17
Appeals	18
Miscellaneous clauses	18
Delegated powers	18
Commencement and interpretation	19
Territorial extent	19
4. Lords consideration	20
4.1 Summary	20
4.2 Amendments made in the Lords	20
Delegated powers	21
Environmental protections	22
Powers over land	23
Miscellaneous and minor amendments	24
4.3 Areas that may be returned to in the House of Commons	25
Enforcement authorisation	26
Liability, indemnity and insurance	26
5. Reaction and comment on the Bill	28
5.1 Pre-legislative scrutiny by the Science and Technology Committee	28
5.2 Industry comment	28
6. Commons second reading and Committee stages	30
6.1 Second reading	30
6.2 Committee stage	30
7. Report and third reading	34
8. Further reading	35

1. Summary

The UK Government has an ambition for the UK to be a leading player in the global space industry. The decreasing cost of launching small satellites is greatly increasing the application and use of satellite data, adding value to many sectors and industries. Further, commercial space travel and space tourism are becoming real future possibilities. Currently, the Government considers that neither international aviation law nor space law adequately cover the risks to safety and security posed by commercial spaceflight activities in the UK.

The [*Space Industry Bill*](#) intends to create a regulatory framework for the expansion of commercial space activities and the development of a UK space port. The Bill intends to cover both orbital and sub-orbital activities, and horizontal and vertical launches carried out in the UK.

The Bill was introduced into the House of Lords on 27 June 2017 and completed third reading on 28 November 2017. It was introduced to the House of Commons on 29 November 2017. The Bill passed its second reading and Committee stages in the House of Commons on the 15 and 23 January 2018, respectively. Report stage in the House of Commons is scheduled for 7 February 2018.

The Bill:

- Creates a framework for the regulation of spaceflight activities in the UK in line with the UK's international obligations;
- Establishes a system of licencing for UK space activities;
- Creates powers for the Secretary of State to appoint a regulator(s). The regulator's primary objective is to ensure public safety.
- Creates a framework for establishing safety, training and informed consent requirements for individuals participating in spaceflight activities;
- Creates a framework to establish a launch site in the UK, including creating powers for the Secretary of State to make orders over land;
- Creates a framework for liability, indemnities and insurance for UK space activities;
- Creates new offences and applies existing UK criminal law to space activities.

The Bill extends to the whole of the UK except for several provisions listed in clause 70, which do not apply to or only apply to Northern Ireland.

In general, the Bill has been welcomed by industry stakeholders. The major criticism of the Bill is the lack of policy detail on the face of the Bill, which creates a framework for further policy to be delivered by regulation and/or guidance. The main specific issue raised by industry stakeholders is the absence of a mandatory cap on liability for spaceflight operators.

Lords consideration

The main themes during the debate in the House of Lords stages focused on the broad delegated powers in the Bill, environmental protections and the powers over land. Several changes were made to the Bill during the House of Lords stages, including a Government amendment that removed the Henry VIII power previously contained in clause 66.

Commons Committee Stage

Two changes were made to the Bill during the House of Commons Committee stage:

- a new clause was added to require licence applicants to submit environmental impact assessments (now Clause 11).
- Clause 34 was amended to require the Secretary of State to indemnify uninvolved third parties who suffer losses that exceed the operator liability cap. Both changes were unopposed and were foreshadowed during the House of Lords stages.

The main issue debated by the House of Commons Public Bill Committee was whether the cap on operators' liability to indemnify the Government and/or third parties should be mandatory. An SNP amendment that sought to make the cap on liability to indemnify the Government mandatory fell at a division. Other unsuccessful opposition amendments included:

- seeking to make the delegated powers in Clause 67 subject to the super-affirmative procedure;
- seeking post-hoc evaluation of the enforcement authorisation in Clause 32;
- requiring consent of the devolved Administrations before making orders under Clauses 38 and 40.

Further information

[Explanatory notes](#) to accompany the Bill as amended in the Lords have been produced by the Department of Transport. Prior to the Lords stages the Government also published [policy scoping notes](#) (11 July 2017) and a [delegated powers memorandum](#) (28 June 2017) which provide further details regarding legislative intent.

2. Background

2.1 UK Space Sector

The UK space industry already impacts many sectors of the UK economy, industry and everyday life. Data collected by satellites is used for many critical services, such as navigation, weather reporting, and financial and telecommunication services. An assessment provided by London Economics to the UK Space Agency (an executive agency of the Department of Business, Energy and Industrial Strategy) in 2016 estimated that over £250 billion (13.8%) of non-financial UK industrial activities is supported by satellite services.¹ The decreasing cost of small satellites and launch services is enabling the increased application and use of satellite data, creating more demand for satellite launch capacity.² Further, through the development of re-usable spacecraft and horizontal launch capabilities, space travel and space tourism are now real possibilities for the future.

The UK Government's ambition is for the UK to be a leading player in the global space industry. Income from the UK space industry in 2014/15 was reported to be £13.7bn, equivalent to 6.5% of the global space economy.³ The Government aims to grow the UK space industry to £19 billion annual turnover by 2020 and by 2030 reach 10% of the global space market.⁴ The UK Space Agency is working with industry and academia to develop a new Space Growth Strategy which it intends to publish in 2018.⁵

One gap in the current UK space industry is the lack of a spaceport or launch site in the UK. The [Space Industry Bill](#) aims to create a regulatory framework to allow for the creation of a UK spaceport and the expansion of commercial space activities in the UK.

2.2 'Spaceflight activities': key terminology

The *Space Industry Bill* creates a regulatory framework for sub-orbital and outer space activities, together referred to as 'spaceflight activities'. The Bill is intended to cover both horizontal and vertical launch technologies.⁶

There is no precise definition in international space law of where "outer space" begins.⁷ "Outer space" activities in the context of the *Space Industry Bill* are considered to be objects launched into the earth's orbit

¹ UK Space Agency, [The Size and Health of the UK Space Industry 2016](#), December 2016, page 1.

² Royal Aeronautical Society, [Making the best use of space](#), 24 November 2017.

³ UK Space Agency, [The Size and Health of the UK Space Industry 2016](#), December 2016, page 1.

⁴ HM Government, [National Space Policy](#), December 2015.

⁵ UK Space Agency, [Corporate Plan 2017-2018](#), March 2017.

⁶ [Explanatory Notes](#) to the Space Industry Bill as brought from the House of Lords, 29 November 2017, para 11.

⁷ [Explanatory Notes](#), 29 November 2017, para 32.

or beyond.⁸ Sub-orbital activities refer to spacecraft that are launched above the stratosphere but do not reach a full orbit of the earth.^{9,10}

Horizontal launches involve a spacecraft taking off from a conventional runway. Horizontal launches are often used for sub-orbital spacecraft but can also be used to launch satellites into orbit by a second launch event.¹¹ Horizontal launches enable launches to be carried out with significantly reduced cost compared to conventional vertical launch facilities, and can be carried out at a wider range of appropriate locations.¹²

Sub-orbital spacecraft and horizontal launch facilities pose novel regulatory and legal challenges. Resembling conventional aircraft, these technologies intersect civil aviation law (during their launch) and space law (while operating in space). The Government considers that neither international aviation law nor space law is currently well developed to cover the risks to safety and security posed by commercial spaceflight activities in the UK.¹³ The *Space Industry Bill* intends to create a regulatory framework in the UK for the expansion of commercial space activities.

2.3 Existing legislative framework

The [Explanatory Notes](#) to the Bill as (amended in the Lords) provide an outline of the existing legal framework, covering both international space law and civil aviation law. A short summary is provided here.

The existing legislative framework for UK space activities is covered by the [Outer Space Act 1986](#) (as amended) (the OSA). The OSA implements UK obligations under several international 'space treaties'.¹⁴ The space treaties cover issues such as registration of space objects and launches, liability for damage caused in outer space, and a broad framework to ensure the activities do not provide risks to public safety. The OSA provides for the Secretary of State to licence activities carried out by UK nationals and companies in relation to space objects and outer space. To date, launches licenced under the OSA have been for small satellites launched from overseas.¹⁵ The OSA does not provide a regulatory framework which would cover commercial space travel or the

⁸ [Explanatory Notes](#), 29 November 2017, para 32.

⁹ [Explanatory Notes](#), 29 November 2017, para 32.

¹⁰ Civil Aviation Authority, [Commercial spaceplane certification and operations: UK government review](#), July 2014: technical report paragraph 2.1.

¹¹ *Ibid*, page 11–12.

¹² *Ibid*, page 42–43.

¹³ [Explanatory Notes](#), 29 November 2017, para 17–22.

¹⁴ The UK is a signatory to four international space treaties:

- 1967 Outer Space Treaty (the 'Space Treaty');
- 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (the 'Rescue Agreement');
- 1972 Convention on International Liability for Damage Caused by Space Objects (the 'Liability Convention'); and the
- 1976 Convention on Registration of Objects Launched into Outer Space (the 'Registration Convention').

The UK is not a signatory to the UN 1979 Moon Agreement, along with the United States, China and Russia which have also not signed the agreement.

¹⁵ [Explanatory Notes](#), 29 November 2017, para 1.

development of a spaceport in the UK and the risks to safety and security that such facilities and services would pose.

Currently, aviation law is governed by the *Convention on International Civil Aviation 1944 (Chicago Convention)*. The relevant UK legislation is the [Civil Aviation Act 1982](#). The UK Aviation Regulator is the Civil Aviation Authority (CAA).

The *Space Industry Bill* is intended to establish a regulatory framework for the space industry in the UK, covering both sub-orbital and outer space activities and provide the necessary legal framework to develop a UK launch facility. The Bill will cover spaceflight activities carried out in (and space objects launched from) the UK. The Bill amends the *Outer Space Act 1986* to apply only to space activities outside the UK.¹⁶ The Bill does not preclude sub-orbital spacecraft that have design features of carrier aircraft from being also regulated under aviation laws.¹⁷ The Bill is also designed to enable compliance with any international and/or EU rules as they currently stand, and provide flexibility for compliance in the future. The Bill therefore mirrors some provisions of the *Outer Space Act* with respect to international obligations, so that they continue to apply to activities carried out in the UK.

The Bill extends to the whole of the UK except for provisions listed in Clause 70 which do not apply to or only apply to Northern Ireland.¹⁸ The power to regulate space activities is reserved. For a discussion of the relationship between the Bill and devolved planning powers, see Section 4.2 (powers over land).

2.4 Consultation leading up to the Bill

The [Explanatory Notes](#) to the Bill provide a summary of the legislative consultation that preceded the development of the *Space Industry Bill*.¹⁹

A [Draft Spaceflight Bill](#) was scrutinised by the House of Commons Science and Technology Committee,²⁰ which received evidence from the House of Lords Select Committee on Delegated Powers and Regulatory Reform.²¹ Some of the Committee's recommendations were adopted by the Government.

Further information about the UK space industry and policy background can be found in the Library briefing paper on [Outer Space](#) (10 March 2017) and the POST note on [UK Commercial Space Activities](#) (December 2015).

¹⁶ Space Industry Bill, Clause 1(3).

¹⁷ Department of Transport, [Space Industry Bill: Policy scoping notes](#), 20 July 2017, page 99.

¹⁸ See Annex A of the [Explanatory Notes](#), 29 November 2017.

¹⁹ [Explanatory Notes](#), 29 November 2017.

²⁰ House of Commons Science and Technology Committee, [Draft Spaceflight Bill inquiry](#), 2017.

²¹ Written evidence to the House of Commons Science and Technology Committee inquiry on the *Draft Spaceflight Bill* from the Delegated Powers and Regulatory Reform Committee, April 2017 ([SFB0012](#)).

3. Space Industry Bill

3.1 Outline of the Bill

This section provides an overview of the contents of the [Space Industry Bill 2017–2019](#). The *Space Industry Bill* intends to create a regulatory framework for the expansion of commercial space activities, and the development of a UK spaceport(s). The Bill covers both orbital and sub-orbital activities, and horizontal and vertical launches carried out in and from the UK.

The Government seeks to address three broad policy imperatives in introducing the Bill:

- 1 The promotion of the UK space industry;
- 2 Ensuring the safety of the general public and participants in space activities;
- 3 Ensuring that the UK's international obligations are reflected in UK law.

Towards these objectives, the Bill:

- Creates a framework for the regulation of spaceflight activities in the UK in line with the UK's international obligations;
- Establishes a system of licencing for UK space activities;
- Creates powers for the Secretary of State to appoint a regulator(s). The regulator's primary objective is to ensure public safety;
- Creates a framework for establishing safety, training and informed consent requirements for individuals participating spaceflight activities;
- Creates a framework to establish a launch site in the UK, including creating powers for the Secretary of State to make orders over land;
- Creates a framework for liability, indemnities and insurance for UK space activities;
- Creates new offences and applies existing UK criminal law to space activities.

[Explanatory Notes](#) to accompany the Bill as amended in the Lords have been produced by the Department of Transport. Prior to the Lords stages the Government also published [policy scoping notes](#) (11 July 2017) and a [delegated powers memorandum](#) (28 June 2017) which provide further details regarding legislative intent. The [House of Lords Library](#) produced a briefing paper prior to the Lords stages.

Delegated powers: general comments

In all of the above areas, the Bill creates a framework for the development of more technical and detailed rules either in secondary legislation and/or by guidance.²²

One of the major criticisms of the Bill during the Lords stages, as well as of the *Draft Spaceflight Bill* examined by the Science and Technology Committee, was the ‘skeletal’ nature of the Bill and the large number and breadth of delegated powers conferred.^{23,24,25} Going into the Lords stages, the House of Lords Constitution Committee noted that the Bill contained approximately 100 delegated powers for 71 Clauses.²⁶

In its report on the *Draft Spaceflight Bill*, the Science and Technology Committee commented that the lack of draft regulations produced by the Department compromised meaningful Parliamentary scrutiny of the Bill, which otherwise contained very limited policy details:

We are concerned by the lack of detail on the face of the draft Bill and the repeated assumption, apparent in the delegated powers memorandum, that technical matters are unsuitable for parliamentary debate. As the Bill currently stands, it would have been very difficult for Parliament to have engaged in meaningful scrutiny of its provisions and its implications for the UK.²⁷

The Government has not published draft regulations for any of the delegated powers. The Department of Transport has however produced [policy scoping notes](#), which set out the intended content of the regulations in general terms.²⁸ The House of Lords Constitution Committee commented that the notes were relatively detailed and go some way to assisting scrutiny, but are not a full substitute for detail on the face of the Bill or for illustrative regulations:

Such notes are a relatively novel addition to the forms of explanatory material that may accompany a Bill, having been used once previously for the Bus Services Bill 2016–17. The notes are relatively detailed, and, while not a full substitute for detail on the face of the Bill or for illustrative regulations, they go some way towards assisting scrutiny by giving a sense of how delegated powers are likely to be used.²⁹

²² [Explanatory Notes](#), 29 November 2017, para 8.

²³ Written evidence to the House of Commons Science and Technology Committee inquiry on the *Draft Spaceflight Bill* from the Delegated Powers and Regulatory Reform Committee, April 2017, para 4 ([SFB0012](#)).

²⁴ House of Commons Science and Technology Committee, *Draft Spaceflight Bill*, [HC1070](#), 29 April 2017, para 84.

²⁵ [HL Deb, 23 October 2017 c775-778](#).

²⁶ House of Lords Constitution Committee, Space Industry Bill, [HL18](#), 8 September 2017, para 4.

²⁷ House of Commons Science and Technology Committee, *Draft Spaceflight Bill*, [HC1070](#), 29 April 2017, para 88.

²⁸ Department of Transport, [Space Industry Bill: Policy scoping notes](#), 20 July 2017.

²⁹ House of Lords Constitution Committee, Space Industry Bill, [HL18](#), 8 September 2017, para 6.

During the Lords stages, shadow frontbench spokesperson Lord Rosser, was critical of the Government's timeline that regulations are not expected to be made for a further two years following Royal Assent.^{30,31}

The Government's position is that the broad nature of the Bill is required in order to allow flexibility for legislation to cover emerging technological advancements and changes to international legal landscape. The delegated powers memorandum prepared before the Lords stages explained:

The Bill aims to provide sufficient certainty and assurance to Parliament, regulators, industry and the general public, whilst simultaneously having the flexibility to allow industry to grow. Early feedback from industry is that this flexibility is seen as vital. A rigid, approach, that offers limited opportunity to keep pace either with the development of spaceflight, or with the enhanced experience of the regulators, would be restricting for this sector.

In addition, the experience of other comparable sectors, like aviation, is that there is a need for development of a large number of detailed technical rules and these are constantly amended to reflect scientific and technical progress. The Department proposes that under the circumstances it would not necessarily be the best use of parliamentary time to scrutinise each minor and technical amendment to the rules in primary legislation, which is why we are proposing the powers to make the provision in secondary legislation along with powers to give directions e.g. to ensure safety, security and compliance with international obligations, with the relevant scrutiny associated with them.³²

Important changes to the Bill were made by the Government during the House of Lords Report stage, most significantly to remove the Henry VIII power previously contained in Clause 66. That Clause would have given power by secondary legislation to amend, repeal or revoke any primary legislation made before the Bill (or in the same session), including legislation of the devolved Administrations.³³ Some issues remain contentious however, in particular the broad power to make secondary legislation to further the purpose of the bill (Clause 67(1)). See Section 4.2 below for further discussion.

3.2 Clauses in the Space Industry Bill

Purpose and overview

Clause 1 sets out that the purpose of the Bill is to regulate space activities and sub-orbital activities (collectively referred to as 'spaceflight activities') carried out *in the UK*. This remit also includes 'associated' spaceflight activities, which includes the operation of spaceports, mission control centres, range control services and training.³⁴

³⁰ [HL Deb, 12 July 2017, c1269](#).

³¹ [HL Deb, 23 October 2017, c775-777](#).

³² Department of Transport, Delegated powers memorandum, 28 June 2016, para 10-11.

³³ [HL Deb, 14 November 2017, c1975-1978](#) (amendment 31).

³⁴ [Explanatory Notes](#), 29 November 2017, para 26–33. More information about range control services is provided below.

Clause 1(3) amends the *Outer Space Act 1986* so that it applies only to activities that are carried out outside the UK.

Establishing a regulator for spaceflight activities

Clause 2 establishes a regulator for spaceflight activities. The primary duty for the regulator when exercising its functions is to secure public safety. A number of other considerations that the regulator must have regard to when exercising regulatory functions are set out in Clause 2(2).

The Bill establishes the Secretary of State as the regulatory authority and contains powers to delegate regulatory functions to the Civil Aviation Authority (CAA) or to another 'appointed person' (**Clause 15**).

The Government intends to appoint the CAA to regulate activities in relation to sub-orbital activities and horizontal launch spaceports.³⁵ These activities are likely to take place from existing airports that have been adapted to take on these facilities.³⁶ There was some discussion during the House of Lords Committee and Report stages regarding the CAA's capacity to take on this additional regulatory function.³⁷ The Parliamentary Under-Secretary of State for Transport (Baroness Sugg) stated that the Government was confident that the CAA will have the necessary resources and appropriate expertise to regulate the new sector.³⁸

The UK Space Agency is expected to be appointed to take regulatory responsibility for those functions that are not delegated to the CAA.³⁹ Activities expected to be appointed to the UK Space Agency's remit include the launch and operation of satellites into orbit, vertically launched rockets, vertical launch space ports and range control services regarding launch into orbit.⁴⁰

Licensing system

Clauses 3–4 establish a licensing system for UK spaceflight activities and prohibit non-licensed spaceflight activities (subject to exceptions listed in **Clause 4**). **Clauses 8–14** provide further details regarding of granting of licences by the regulator.

The Bill does not set out criteria and procedures for awarding licences. **Clause 8** requires that the regulator must be satisfied that the licence will not impair national security; is consistent with the UK's international obligations; is not contrary to national interest; and that the licensee is a fit and proper person with the necessary financial and technical resources. **Schedule 1** sets out a non-exhaustive list of conditions that

³⁵ For a full list of functions see the Department of Transport, [Space Industry Bill: Policy scoping notes](#), 20 July 2017, page 39–40.

³⁶ [HL Deb, 16 October 2017, at c449-450](#).

³⁷ In response to amendments tabled by Baroness Randerson (LD). See [HL Deb 14 November 2017, c1954-1955](#) (amendment 11) and [HL Deb, 16 October 2017, c449](#) (amendment 23).

³⁸ [HL Deb 14 November 2017, c1955](#).

³⁹ Department of Transport, [Space Industry Bill: Policy scoping notes](#), 20 July 2017, page 39.

⁴⁰ [HL Deb, 16 October 2017, at c449-450](#).

the regulator may attach to a licence (**Clause 12**). The Bill includes provisions that allow further regulations and guidance to be made, for example regarding eligibility for licences,⁴¹ safety,⁴² and administrative procedures.⁴³

Clause 9(8) provides that the regulator must have regard to guidance issued by the Secretary of State on the exercise of the regulator's functions under the section, and to guidance issued by the Secretary of State regarding health and safety. The House of Lords Delegated Legislation and Regulatory Reform Committee recommended that the mandatory guidance under this section, given its legal significance, should be made in the form of regulations that are subject to Parliamentary scrutiny.⁴⁴ This recommendation was debated during the first day of the Lords Committee stage following an amendment tabled by Lord Moynihan (Con).⁴⁵

There was some discussion during the Lords stages regarding the lack of detail with respect to the licencing scheme under the Bill. Concerns were raised regarding small 'nano-satellites' which are often launched in 'constellations' consisting of many small satellites in a group.⁴⁶ The *Outer Space Act* currently requires each satellite to be licenced (and insured) separately. Small satellites are considered to have significantly lower risk associated with their launch than compared to large geostationary satellites.

During the Lords stages, the Parliamentary Under-Secretary of State, Baroness Sugg, explained work that the UK Space Agency has been doing with respect to reviewing the licence and insurance requirements for small satellites, stating that the Agency was working on a policy model for the licencing and insurance of small satellites on a per-event rather than per-satellite basis.⁴⁷ She stated that the Government expects that the approach to insurance and licencing of nano satellites under the Bill will be mostly set out in guidelines and not within regulations to enable flexibility.⁴⁸ Further discussion of insurance provisions is set out below (Clause 37). Members remained concerned that currently, industry stakeholders still have little clarity as to what the insurance and licencing costs under the Bill can be expected to be.⁴⁹

In the context of discussing the licencing regime, Baroness Sugg also explained the 'traffic light system' currently used by the UK Space Agency for evaluating licences under the *Outer Space Act*, which is expected to be implemented for licences under the *Space Industry Bill*.⁵⁰

⁴¹ Clause 3(5).

⁴² Clause 9.

⁴³ Clause 8(5).

⁴⁴ Lords Delegated Powers and Regulatory Reform Committee, [HL 10](#), 13 July 2017, para 32.

⁴⁵ [HL Deb, 16 October 2017, c422-423](#).

⁴⁶ [HL Deb, 18 October 2017 at c634-635](#) and [HL Deb, 14 November 2017, 1965-1967](#).

⁴⁷ [HL Deb, 18 October 2017 at c636](#) and [HL Deb, 14 November 2017, c1965-1967](#).

⁴⁸ [HL Deb, 14 November 2017, c1966](#).

⁴⁹ [HL Deb, 14 November 2017, c1967](#).

⁵⁰ [HL Deb, 18 October 2017 at c636](#).

In short, the system sorts applications into three categories: a “green” rating indicates that the mission is likely to be compliant with the operation and design requirements of the UK licencing process; “amber” indicates that with some modification or additional information the mission may be compliant; and “red” indicates that the mission could not be licenced.⁵¹

Range control services

Clauses 5–7 create a system for licencing and regulation of ‘range control services’. ‘Range’ is defined to refer to a zone around which spaceflight activities might take place and may require restrictions, for example on airspace or land use, to ensure hazards to the launch and the general public are controlled in the area.⁵² **Clause 6** sets out activities that constitute range control services and **Clause 7** provides for the regulation of those services by the Secretary of State or an authorised delegate.

Safety and security

Clauses 16, 17 and **Schedule 2** provide the power to make provisions regarding the informed consent, training and health requirements for individuals taking part in spaceflight activities. **Clauses 18–20** provide powers to make regulations regarding safety and the investigation of accidents. **Schedule 3** provides a non-exhaustive list of examples of what kind of provisions may be made by safety regulations.⁵³

The Science and Technology Committee and House of Lords Constitution Committee both raised concerns regarding the lack of detail with respect to what the safety regulations will provide.^{54,55} Detail regarding safety legislation was debated during the first day of the Lords Committee stage in response to an amendment tabled by Lord Moynihan (Con).⁵⁶ Specific discussion was also raised separately with respect to safety issues raised by drones and lasers,⁵⁷ and the role that the Health and Safety Executive should play in assessing safety requirements.⁵⁸

Clause 21 gives effect to **Schedule 4**, which establishes new offences against the safety of aircraft, such as hijacking, destroying, damaging or endangering the safety of spacecraft. **Clause 22** allows further security regulations to be made, with examples of the kinds of provisions that may be made provided in **Schedule 5**.

⁵¹ [Will-write letter](#) from Baroness Sugg (Parliamentary Under-Secretary of State for Transport) to Lord Fox, dated 31 October.

⁵² Clause 5.

⁵³ Clause 18(2).

⁵⁴ House of Commons Science and Technology Committee, *Draft Spaceflight Bill*, [HC1070](#), 29 April 2017, para 87.

⁵⁵ House of Lords Constitution Committee, Space Industry Bill, [HL18](#), 8 September 2017, para 4.

⁵⁶ [HL Deb, 16 October 2017, c423-427](#) (amendment 5).

⁵⁷ [HL Deb, 16 October 2017, c452-457](#).

⁵⁸ [HL Deb, 16 October 2017, c427-432](#) and [HL Deb, 14 November 2017, c1949-1952](#). See also the [will-write letter](#) from Baroness Sugg (Department of Transport) to Lord Tunnicliffe dated 15 November 2011 regarding the role of the Health and Safety Executive with respect to spaceflight activities.

Clause 23 allows a person authorised by a spaceport licence to make byelaws regulating the use and operation of the spaceport.

Enforcement

Clauses 25–32 allow the regulator to monitor compliance with and to enforce the provisions in the Bill.

Clause 31 allows for enforcement warrants that remain in force for a period of one month from the date of issue to be executed by a justice of the peace.

Clause 32 provides a power for the Secretary of State to grant an enforcement authorisation without judicial oversight where there is a serious risk to national security, health and safety or to contravention of the UK's international obligations. The warrant may authorise a named person to do "anything necessary" where the conduct of persons involved in spaceflight activities gives rise to a serious risk to national security, breach of international obligations or serious risk to health and safety.⁵⁹ The order may remain in force for 48 hours.

The House of Lords Constitution Committee raised concerns about the lack of judicial oversight (either anticipatory or post-hoc) to accompany the potentially wide powers exercisable under this clause.⁶⁰ See further discussion at Section 4.3 below.

Liabilities, indemnities and insurance

Clauses 33–37 provide provisions regarding liabilities, insurance and indemnity. The main concerns raised by peers and industry stakeholders here regard the non-mandatory language used to define the Secretary of State's powers to limit liability and to indemnify claimants.

Liability

Clause 33 imposes strict liability on spaceflight operators for injury or damage caused to persons or property in the UK by their activities (with some exceptions).⁶¹ Clause 33(5) provides that the Secretary of State may impose a cap on third-party liability arising under this section.

Spaceflight operators are also required to indemnify the UK Government (and other specified regulatory bodies) against claims brought against the government in respect of loss or damage caused by their activities (**Clause 35**). This is because under the UN 1972 Liability Convention, the UK Government is ultimately liable for third-party costs for accidental damage arising from UK space activities.⁶² **Clause 11(2)** states that the Secretary of State may limit the extent of this liability to indemnify the Government as a condition of the operator licence.⁶³

⁵⁹ [Explanatory Notes](#), 29 November 2017, para 154.

⁶⁰ House of Lords Constitution Committee, Space Industry Bill, [HL18](#), 8 September 2017, para 14.

⁶¹ Strict liability means that damages can be recovered without proof of negligence or intention or other cause of action.

⁶² [Explanatory Notes](#), 29 November 2017, para 170. See also [HL Deb, 14 November 2017, c1963](#).

⁶³ Clause 35(3) states that the obligation subsection (1) is subject to any limit specified under Clause 11(2) 'except in prescribed cases or circumstances'.

The purpose of the liability caps in Clauses 33(5) and 11(2), if implemented, is to allow spaceflight operators to obtain affordable insurance. A cap on liability is considered a key requirement by industry stakeholders for promoting growth in the industry in the UK, due to the difficulty in obtaining insurance for unlimited liability. Industry stakeholders have argued that the liability caps should be mandatory, as is currently the case for the requirement to indemnify the Government under the *Outer Space Act 1986*.⁶⁴

Currently, section 10 of the *Outer Space Act 1986* requires that parties carrying out space activities must indemnify the UK Government against loss or damage caused by their activities. Section 5(3) provides that the Secretary of State *must* set a cap on the amount of an operator's liability under section 10.⁶⁵ The UK Space Agency publishes the usual level of the cap in its guidance, which is currently set at €60 million for the majority of cases (single satellite missions).⁶⁶ The mandatory cap was introduced by the *Deregulation Act 2015* following concerns raised by industry regarding the difficulty of obtaining insurance for unlimited liability, which was considered to be a substantial burden on innovation in the sector in the UK and its international competitiveness.⁶⁷ Other major space launch countries cap liability, for example, the United States, Australia and France.⁶⁸ The *Outer Space Act* does not make provision for third-party liability for loss or damage to persons comparable to Clause 33 of the *Space Industry Bill*.⁶⁹

The Government has not confirmed whether or not liability caps will or will not be imposed by regulations under the *Space Industry Bill*.⁷⁰ The Government's position is that the non-mandatory language in the clauses allowed flexibility while further consultation takes place, especially with respect to the cap on third party liability under Clause 33.⁷¹ For further discussion see Section 4.2 below.

The policy scoping notes stated that the Government intends to exercise the power under Clause 33(5) to the "*minimum extent necessary to address market failure in terms of the availability of affordable insurance*".⁷²

Powers for the Secretary of State to indemnify

Clause 34 provides powers for the Secretary of State to indemnify persons in cases where a person uninvolved in spaceflight activity sustains injury or damage. There are two situations provided for:

⁶⁴ Bird & Bird, [Satellite Bulletin July 2017: Limit on the Liability of Satellite Launch and Operations Licence Holders in the UK](#), 19 September 2017.

⁶⁵ *Outer Space Act 1986*, section 5(3) (as amended).

⁶⁶ UK Space Agency, [Revised guidance for applicants](#), July 2017.

⁶⁷ [HL Deb, 28 October 2014, c370](#).

⁶⁸ Department of Transport, [Space Industry Bill: Policy scoping notes](#), 20 July 2017, page 62.

⁶⁹ [HL Deb, 16 October 2017, c435](#).

⁷⁰ [HL Deb, 16 October 2017, c436–437](#).

⁷¹ [HL Deb, 16 October 2017, c436–437](#).

⁷² Department of Transport, [Space Industry Bill: Policy scoping notes](#), 20 July 2017, page 62.

- Where the liability incurred by a licensee is greater than the insured amount, Clause 34(2) provides that the Secretary of State may choose to indemnify a licensee in respect of the difference.
- Clause 34(3) provides that the Secretary of State may choose to indemnify a claimant in respect of any difference between the amount of the licensee's liability as limited by any cap imposed by regulations, and the amount that the liability would be but for the cap. The purpose of the clause is to ensure that uninvolved members of the public obtain full compensation for injury or loss.⁷³

Clause 34(5) provides that regulations may prescribe limits that the Secretary of State may pay under subsections (2) or (3).

Opposition amendments were raised in the Lords which sought to make the Government's obligation to indemnify uninvolved claimants under Clause 34(3) mandatory.⁷⁴ The amendment was withdrawn on the understanding that the Government will bring an equivalent amendment in the Commons.⁷⁵

Insurance

It is expected that spaceflight operators will be required to have insurance to meet the liability caps imposed by regulations. **Clause 37** provides the Secretary of State with the power to make regulations regarding insurance requirements, including the power to make insurance available should the market not provide it. Some concerns were raised in the House of Lords report stage regarding the lack of clarity for industry so far as to how the insurance and liabilities regime will operate, in particular with regard to small satellites.⁷⁶ Further discussion is provided in the section on 'Licencing' above.

The Government expects that insurance will be set on a case-by-case basis in each licence. The regulations made under Clause 37 are expected to provide a methodology for how insurance amounts should be calculated rather than prescribing particular amounts, which will be instead published in guidance.^{77,78}

Powers to obtain rights over land

Clauses 38–49 would grant powers to the Secretary of State to make orders in relation to land for the purposes of spaceflight activity. These include powers to obtain rights over land and powers to temporarily restrict the use of land to protect safety in relation to a space launch. The Government intends that these clauses should only be used as a 'last resort' should negotiations with land owners regarding access fail.⁷⁹

⁷³ Department of Transport, [Space Industry Bill: Policy scoping notes](#), 20 July 2017, page 65.

⁷⁴ [HL Deb, 14 November 2017, c1962](#) (amendment 15).

⁷⁵ [HL Deb, 14 November 2017, c1964](#).

⁷⁶ [HL Deb, 14 November 2017, c1967](#) (Lord Fox).

⁷⁷ [HL Deb, 14 November 2017, c1966](#) (Baroness Sugg, Parliamentary Under-Secretary of State for Transport).

⁷⁸ Department of Transport, [Space Industry Bill: Policy scoping notes](#), 20 July 2017, page 70.

⁷⁹ [HL Deb, 18 October 2017, c642](#).

The key provisions are:

- **Clause 38** allows the Secretary of State to create orders over land, where it is satisfied it is 'appropriate' to secure safe and efficient spaceflight activities. Seven days' notice must be given to the occupier of the land (subsection 6) except in the case of an emergency (subsection 8).
- **Clause 40** allows the Secretary of State power to temporarily restrict the use of land during launch or landing so as to ensure safety both to the launch and to persons and property.
- **Schedule 6** provides details for notice requirements and sets out procedures for making and dealing with objections to orders under Clauses 38/40. Schedule 6 provides that objections can be made up to at least 28 days after the notice is published/served.⁸⁰ Making an objection allows the person to be heard or for a public local inquiry to be held.
- Orders under Clauses 38 and 40 can only be challenged in accordance with **Schedule 7 (Clause 42)**.⁸¹ A person aggrieved by an order under Clauses 38/40 can apply to have the order quashed. The challenge must be made within 6 weeks of the notice of the order being published.
- **Clause 41** creates powers for the Secretary of State to authorise a person to enter land for the purpose of carrying out a survey in connection with an order or proposed order Clause 38. The person must give the occupier of the land eight days notice.
- **Schedule 8** sets out provisions regarding compensation in connection with orders under Clauses 38, 40 and 41.

The powers over land provided in Clauses 38 and 40 were subject to several amendments during the Lords Report stage.⁸² One unresolved contention was whether provision should be made for the consent of the devolved legislatures when making orders under Clauses 38/40 (see Section 4.2 (powers over land) below for further discussion).

Offences

Clauses 50–58 concerns offences and civil sanctions.

Clause 50 extends UK criminal law to acts and omissions carried out on a spacecraft, even when the spacecraft is outside the UK. Clause 21 on the other hand (see above) creates new offences against the safety and security of spacecraft. **Clause 51** allows regulations to be made relating to offences that occur on board a spacecraft.

Clause 52 sets out the penalties that a person would be subject to if they were to commit an offence under the Bill.

Clause 53 allows new offences to be introduced by secondary legislation. Regulations that create new offences must be subject to the affirmative procedure (Clause 67(6)(m)) and the Secretary of State must

⁸⁰ Schedule 6 Clause 2(3) provides that the period for objections is 42 days in the case of a proposed order sought by a licensee.

⁸¹ [HL Deb, 14 November 2017, c1969.](#)

⁸² [HL Deb, 14 November 2017, c1967–1975](#) (amendments 19–28)

carry out a public consultation before making such regulations (Clause 67(7)).

Appeals

Clause 59 introduces **Schedule 10** which provides that regulations must establish one or more panels to consider appeals against decisions made under the Bill and the *Outer Space Act 1986*.

Miscellaneous clauses

Clause 60–65 contain miscellaneous provisions regarding for example, records, documentation and co-operation between the Secretary of State and other public authorities and countries.

Clause 60 requires the Secretary of State to keep a register of launches carried out from the UK. The Government is required to keep a register of space objects under the UN 1976 Registration Convention.⁸³

Clause 61 (Schedule 11) allows charging schemes to be established by the CAA (or other appointed body) in respect of carrying out regulatory functions under the Bill.

Delegated powers

Clauses 66 and 67 provide for powers for the making of further regulations. **Clause 66** provides that regulations cannot amend primary legislation. This clause was added as a Government amendment in the Lords Report stage to remove the potential Henry VIII power that was previously contained in the Bill.⁸⁴

Clause 67 provides a general power to make regulations for achieving the purpose of the Bill set out in Clause 1(1). Clause 67(5) provides that statutory instruments made under the Bill are to be subject to the negative procedure, subject to a few exceptions requiring the affirmative procedure that are listed in Clause 67(6). This list does not include the general power to make regulations under Clause 67(1). Several of the provisions only require the affirmative procedure for the first set of regulations made. Clause 67(7) that requires the Secretary of State to carry out a public consultation before making regulations listed in subsection (6).

Clause 67 raises two issues which were subject to debate during the Lords stages and which were highlighted by the Lords Constitution Committee and the Delegated Powers and Regulatory Reform Committee:

- 1 the general power to make regulations in Clause 67(1);⁸⁵ and
- 2 that Clause 67(6) provides that only the first of some sets of regulations are subject to the affirmative procedure.⁸⁶

See Section 4.2 for discussion of the House of Lords consideration.

⁸³ [Explanatory Notes](#), 29 November 2017, para 246.

⁸⁴ [HL Deb. 14 November 2017, c1975–1978.](#)

⁸⁵ Lords Constitution Committee, Space Industry Bill, [HL 18](#), 8 September 2017, para 9–10.

⁸⁶ Lords Delegated Powers and Regulatory Reform Committee, [HL 10](#), 13 July 2017, para 33–34.

Commencement and interpretation

Clause 68 provides definitions of several key terms used in the Bill.

Clause 69 sets out that the Bill will come into force on the day appointed by the Secretary of State by regulations, except for Clauses 67–71 which come into force when the Bill is passed.

Territorial extent

The power to regulate space activities is reserved. The Bill extends to the whole of the UK except for a few provisions listed in **Clause 70** which do not apply to or only apply to Northern Ireland.⁸⁷ For a discussion of the relationship between the Bill and devolved planning powers, see Section 4.2 (powers over land).

Clause 70(5) provides that the Bill can be extended by an Order in Council to the Channel Islands, Isle of Man or British overseas territories.

⁸⁷ See Annex A of the [Explanatory Notes](#), 29 November 2017.

4. Lords consideration

4.1 Summary

Several amendments were made during the Lords Report stage of the Bill, none of which went to division. Most of the amendments were Government amendments, some of which followed opposition amendments debated during the Committee stages.

Prior to the Lords stages the Bill was considered by the House of Lords Constitution Committee and the Lords Delegated Powers and Regulatory Reform Committee.^{88,89} Several of the amendments tabled in the House of Lords followed recommendations made by the Committees.

The second reading debate focused on the challenge of balancing the need for sufficient regulation for safety, with the need to avoid overregulation that may stifle innovation and growth of the sector.⁹⁰ Many speakers also highlighted the opportunities that the expansion of the UK space sector may bring to education, research and development, as well as industry.

Concerns were also raised regarding the implications that the UK's withdrawal from the EU may have on the space industry in the context of the policy imperative to promote growth in the space industry.⁹¹ The Government confirmed that UK's withdrawal from the EU will not affect the UK's membership of the European Space Agency, which is not an EU institution.⁹²

Debate in the Lords Committee and Report stages largely centred around issues regarding:

- delegated powers in the Bill;
- environmental protections in the Bill;
- powers to authorise entry (Clause 32);
- powers over land (Clauses 38 and 40); and
- liability, indemnity and insurance provisions.

4.2 Amendments made in the Lords

The following provides a discussion of the amendments made to the Bill by the House of Lords. Issues raised in amendments that were not agreed and may be returned to in the Commons are covered in Section 4.3.

⁸⁸ Lords Constitution Committee, Space Industry Bill, [HL 18](#), 8 September 2017.

⁸⁹ Lords Delegated Powers and Regulatory Reform Committee, [HL 10](#), 13 July 2017.

⁹⁰ [HL Deb, 12 July 2017, from c1242.](#)

⁹¹ [HL Deb, 12 July 2017, from c1262.](#)

⁹² [HL Deb, 12 July 2017, from c1268.](#)

Delegated powers

The most significant amendment made during the Lords stages was to remove the Henry VIII power previously contained in Clause 66. The amendment was made by the Government after strong opposition to the clause was voiced during the Committee stages.⁹³ The Government also added Clause 67(7) as an amendment, to require that the Secretary of State hold a public consultation before making regulations under the provisions listed Clause 67(6).

Several opposition amendments were tabled to Clause 67, which did not pass. The amendments sought to address two issues:

1. Remove or confine the general power to make regulations in Clause 67(1); and
2. Remove the restrictions in Clause 67(6) that provides that only the first set of some regulations are subject to the affirmative procedure.

The debate regarding these amendments closely followed the observations made by the Lords Constitution Committee and the Delegated Powers and Regulatory Reform Committee, respectively.

Regarding the 'catch-all' regulation making power, the Lords Constitution Committee raised concerns that the power may undercut judicial review and renders the limits on the other more specific delegated powers less meaningful.⁹⁴

The House of Lords Delegated Powers and Regulatory Reform Committee recommended that all powers listed in Clause 67(6) be subject to the affirmative procedure in all cases.⁹⁵ The Committee made the following observations, noting that where only the first set of regulations is subject to the affirmative procedure, this procedure is open to abuse:

The technique is open to abuse. The first set of regulations, the affirmative ones, might only be very short, leaving subsequent negative regulations to provide the real substance. We assess delegated powers not merely on how the present Government *propose* to use them but on how any future government *could* use them.

The Government say this approach will save a disproportionate amount of parliamentary time and facilitate timely updating, there being no need for parliamentary debates. This is unconvincing and, if applied generally, would argue for the adoption of the negative procedure - or no procedure at all - in all cases.⁹⁶

The Parliamentary Under-Secretary of State for Transport, Baroness Sugg, explained that the Government considered that the general power in Clause 67(1) is necessary to ensure that wider matters not covered by the more specific delegated powers in the Bill can be

⁹³ [HL Deb, 23 October 2017, c771-784](#).

⁹⁴ Lords Constitution Committee, Space Industry Bill, [HL 18](#), 8 September 2017, para 9-10.

⁹⁵ Lords Delegated Powers and Regulatory Reform Committee, [HL 10](#), 13 July 2017, para 34.

⁹⁶ Lords Delegated Powers and Regulatory Reform Committee, [HL 10](#), 13 July 2017, para 33.

legislated for, and so that legislation can be updated efficiently in line with technology advancements:

As noble Lords are well aware, there are a number of other regulation-making powers in the Bill, notably around security and safety. However, we need to ensure that we can regulate those wider matters relating to spaceflight and associated activities carried out in the UK that are not covered by the other powers. [...]

[T]o unduly limit the scope of this power would mean that we would need to use primary legislation to make provision in response to developments in technology, which could hold up the timetable for enabling safe launch from the UK.

As I have mentioned previously, it is not as if this power is unlimited; regulations can be made to carry the Act into effect or to facilitate regulation of spaceflight activities and associated activities only as set out in Clause 1(1).⁹⁷

The delegated powers memorandum prepared for the Lords stages provided examples of situations that the Government thought that this clause may be necessary, such as to enable regulations to be made for environmental purposes or to implement international obligations.⁹⁸ The Government compared the clause to the general power to make regulations contained in Section 60 of the *Civil Aviation Act 1982*.

Several members remained concerned about the broad wording of the powers present in Clause 67(1).⁹⁹

Environmental protections

The Government amended Schedule 1, Clause 7 to add a requirement that licence conditions may require an assessment to be made of the impact of noise and emissions from spaceflight activities on communities in the vicinity.¹⁰⁰

The amendment followed concerns raised during the Committee stages that the Bill does not make sufficient mandatory provisions to require measures to ensure environmental protections and considerations of the impact of the Bill on local communities. Shadow frontbench spokesperson Lord Rosser tabled an amendment on the first day of Committee, and again in Report, seeking to add consideration of the environment and local communities as mandatory factors that the regulator is required to consider under Clause 2(2) when exercising its functions.^{101,102} Lord Tunnicliffe (Lab) raised concerns regarding noise pollution around spaceports, noting that Clause 33(1) provides that there is no liability for nuisance for activities carried out substantially in compliance with the Bill.¹⁰³

⁹⁷ [HL Deb, 28 November 2017, c613](#).

⁹⁸ Department of Transport, [Space Industry Bill: Delegated powers memorandum](#), 28 June 2017.

⁹⁹ [HL Deb, 28 November 2017, c611-614](#).

¹⁰⁰ [HL Deb, 14 November 2017, c1952](#) (amendment 9).

¹⁰¹ [HL Deb, 16 October 2017, c411-412](#) (amendment 3).

¹⁰² [HL Deb, 14 November 2017, c1944](#) (amendment 2).

¹⁰³ [HL Deb, 18 October 2017, c631](#).

The Government amendment to Schedule 1 was welcomed, however several members did not consider that the amendment went far enough. Baroness Randerson (LD) highlighted that the requirement to add licence provisions is non-mandatory.¹⁰⁴ Further, activities exempt from licences under Clause 4 are not restrained by the duties of the regulator articulated in Clause 2(2), which includes a requirement to consider “environmental objectives set by the Secretary of State”. Lord Rosser took issue with the fact that Clause 2(2) limits the environmental objectives that must be considered only to those ‘set by the Secretary of State’.¹⁰⁵

Parliamentary Under-Secretary of State for Transport, Baroness Sugg, set out the Government’s intention for environmental protections under the Bill during the Report stage, highlighting that existing environmental and planning laws should provide sufficient protection.¹⁰⁶ She stated that, taking account of concerns raised during the debate, the Government were considering introducing an amendment in the Commons that will require spaceport and spaceflight applicants to submit a noise and emissions assessment that regulators must take into account when assessing the licence application.¹⁰⁷

Powers over land

Several amendments were made to Clauses 38 and 40 regarding the powers of the Secretary of State to make orders with respect to rights over land.¹⁰⁸ The amendments were all Government amendments that followed similar opposition amendments during the Committee stages. During Committee stages it was suggested that the clauses tipped the balance too far in favour of the regulator, providing insufficient protections to landowners.¹⁰⁹ There was a debate during the second day of Committee as to whether Clause 38 should stand part of the Bill at all.¹¹⁰ The Government highlighted that it intends these clauses to operate as a ‘last resort’ should negotiations with land owners regarding access fail.¹¹¹

The language of Clause 38 was amended such that orders can now be made when the Secretary of State considers it ‘appropriate’, where previously the Bill read ‘expedient’. A new Clause 40 was added, replacing the old clause, to require that restrictions on land use could be only made temporarily. Clause 42 was added to make it explicit that orders under Clauses 38 and 40 can only be challenged in accordance with Schedule 7. Several other consequential amendments were also made.

Baroness Randerson (LD) also raised a concern that Clauses 38 and 40 encroach on devolved planning powers, which was left unresolved. She

¹⁰⁴ [HL Deb, 14 November 2017, c1945–47.](#)

¹⁰⁵ [HL Deb, 14 November 2017, c1945–47.](#)

¹⁰⁶ [HL Deb, 14 November 2017, c1947.](#)

¹⁰⁷ [HL Deb, 14 November 2017, c1947.](#)

¹⁰⁸ [HL Deb, 14 November 2017, c1967–75](#) (amendments 19–28).

¹⁰⁹ [HL Deb, 18 October 2017, c638–46.](#)

¹¹⁰ [HL Deb, 18 October 2017, c637.](#)

¹¹¹ [HL Deb, 18 October 2017, c642.](#)

tabled an amendment in both the Committee and Report stages that would require the consent of the minister of the relevant devolved Administration before making an order under Clauses 38 or 40.^{112,113} The general principle that specific reference to the devolved Administrations should be made on the face of the Bill received cross-party support from Lord Tunnicliffe (Lab)¹¹⁴ and Lord Moynihan (Con).¹¹⁵

During the Report stage, the Parliamentary Under-Secretary of State for Transport, Baroness Sugg, outlined the UK Government's engagement with the devolved Administrations to date,¹¹⁶ including noting their consent to the amendments made to the clauses during Report stage.¹¹⁷ Baroness Randerson suggested that this issue may be returned to in the House of Commons.¹¹⁸

Miscellaneous and minor amendments

Space debris mitigation

Two Government amendments were made during Report stage regarding space debris mitigation guidelines. The changes followed an amendment tabled by Lord McNally (LD) during the first day of Committee, which were withdrawn.¹¹⁹ Talking to that amendment, Baroness Randerson (LD) raised concerns that the Bill did not contain a mandatory requirement to consider space debris mitigation guidelines, and that licence conditions regarding space debris mitigation listed in Schedule 1 referred only to 'international organisations', which might not include some advisory bodies.¹²⁰

In response, the Government amendments at Report stage added subsection (h) to Clause 2(2) to require that the regulator have regard to space mitigation guidelines issued by international organisations when exercising regulatory functions.¹²¹ Clause 1(g) of Schedule 1 was amended to refer to 'space mitigation guidelines' generally, rather than those specifically issued by international organisations.¹²²

Licence transfers

Clause 14(2) was added by Government amendment 10, so as to require that licence transferees also meet the same criteria required for the licence.¹²³ The amendment followed a similar amendment moved by shadow frontbench spokesperson Lord Rosser on the first day of Committee.¹²⁴

¹¹² [HL Deb, 18 October 2017, c645-650.](#)

¹¹³ [HL Deb, 14 November 2017, c1970.](#)

¹¹⁴ [HL Deb, 14 November 2017, c1971.](#)

¹¹⁵ [HL Deb, 18 October 2017, c647.](#)

¹¹⁶ [HL Deb, 14 November 2017, c1972-1973.](#)

¹¹⁷ [HL Deb, 14 November 2017, c1972.](#)

¹¹⁸ [HL Deb, 14 November 2017, c1971.](#)

¹¹⁹ [HL Deb, 16 October 2017, c441](#) (amendment 17).

¹²⁰ [HL Deb, 16 October 2017, c442](#)

¹²¹ [HL Deb, 14 November 2017, c1947](#) (amendments 3 and 8).

¹²² [HL Deb, 14 November 2017, c1947.](#)

¹²³ [HL Deb, 14 November 2017, c1952-53](#) (amendment 10).

¹²⁴ [HL Deb, 16 October 2017, c486](#) (amendment 22).

Liability of the regulator for gross negligence

Clause 36(4) was amended and subsection 36(5) was added so as to provide that the regulator may be liable in cases of gross negligence.¹²⁵ The amendment was tabled by Lord McNally (LD) and was supported by the Government. A similar amendment was debated on the second day of the Committee stages.¹²⁶ This recommendation was also made by the Science and Technology Committee with respect to the draft Bill.¹²⁷

Territorial extent of the Bill

Government amendment 40 added subsection 70(5), which allows the Bill to be extended to the Channel Islands, the Isle of Man and any British overseas territory.¹²⁸

Minor amendments to drafting

The Government made minor amendments to the drafting of the Bill to change references to 'an enactment' to instead read 'a provision that creates'.¹²⁹ This was to make sure that the legislation of the devolved Administrations is captured and the Government noted that the devolved legislatures had consented to the amendment. Government amendment 39 made changes to Clause 70 to ensure that English, Welsh and Northern Ireland partnerships can be prosecuted in Scotland.¹³⁰

4.3 Areas that may be returned to in the House of Commons

Section 4.2 above highlighted several areas where further amendments or debate may arise in the House of Commons, including:

- The delegated powers in Clause 67, in particular the broad power in Clause 67(1) and requirement in Clause 67(6) that only the first set of regulations for some provisions require the affirmative procedure;
- Environmental protections: a possible Government amendment regarding licence applicants to prepare a noise and emissions assessment was foreshadowed.¹³¹
- Rights over land: whether reference should be made for the consent of devolved Administrations with respect to powers in Clauses 38 and 40.

This section covers other areas which were debated in the Lords and may arise in House of Commons stages.

¹²⁵ [HL Deb, 14 November 2017, c1964](#) (amendments 16 and 17).

¹²⁶ [HL Deb, 18 October 2017, c633](#).

¹²⁷ House of Commons Science and Technology Committee, *Draft Spaceflight Bill*, [HC1070](#), 29 April 2017, para 63.

¹²⁸ [HL Deb, 14 November 2017, c1956-58](#).

¹²⁹ [HL Deb, 14 November 2017, c1956](#) (amendments 12, 13, 29, 39 and 30).

¹³⁰ [HL Deb, 14 November 2017, c1956](#) (amendment 39).

¹³¹ [HL Deb, 14 November 2017, c1947](#).

Enforcement authorisation

Shadow frontbench spokesperson Lord Rosser tabled an amendment in the Lords Committee and Report stages that would require enforcement orders made under Clause 32 to be referred for post-hoc review by a justice of the peace.^{132,133} Lord Rosser's arguments reflected the views and recommendations of the Lords Constitution Committee, which raised concerns about the lack of judicial oversight regarding orders made under the clause, referring to the powers as 'wide ranging and potentially draconian'.¹³⁴

In response the Government stated that it did not believe judicial oversight was necessary but that it was 'continuing to reflect' on the issue and was considering 'some type of post hoc review'.¹³⁵

Liability, indemnity and insurance

The main concern raised by industry stakeholders regarding the Bill is the absence of a mandatory liability cap for spaceflight operators.¹³⁶ See Section 3.2 above for discussion of the provisions regarding operator liability, indemnity and insurance.

The issue of the non-mandatory language used in the Bill regarding liability caps for operators was raised during the Committee stages.¹³⁷ In response to calls that the Government clarify its position on liability caps, the Parliamentary Under-Secretary of State for Transport, Lord Callanan, stated that the Government was in 'listening mode'.¹³⁸

Lord Callanan highlighted the difference between a liability cap for third-party liability and a cap on liability with respect to the licensee's requirement to indemnify the government under Clause 35.¹³⁹ Lord Callanan explained the non-mandatory language in the clauses allowed flexibility while further consultation took place, especially respect to the cap on third party liability, which is not currently provided for under the *Outer Space Act*.

The discretionary power in Clause 11 therefore allows the Government to remain committed to their current policy position under the *Outer Space Act*. However, it also allows the Government a discretion on whether to cap the indemnity to government for other activities licensed under the Bill, such as a UK launch.¹⁴⁰

[...]

While we have assessed the cap on the operator's indemnity to government for activities currently licensed under the *Outer Space Act*, a more general liability cap for space flight activities taking place from the UK has not been fully analysed. Launches are a

¹³² [HL Deb, 14 November 2017, c1959.](#)

¹³³ [HL Deb, 16 October 2017, c458.](#)

¹³⁴ House of Lords Constitution Committee, Space Industry Bill, [HL18](#), 8 September 2017, para 14.

¹³⁵ [HL Deb, 14 November 2017, c1962.](#)

¹³⁶ ['UK space industry warns over loss of liability cap'](#), *Financial Times*, 28 June 2017 (subscription required).

¹³⁷ [HL Deb, 16 October 2017, c433.](#)

¹³⁸ [HL Deb, 16 October 2017, c436.](#)

¹³⁹ [HL Deb, 16 October 2017, c434-437.](#)

¹⁴⁰ [HL Deb, 16 October 2017, c435.](#)

new activity for the UK and we believe that we should cap the operator's liabilities for this activity only if there is clear evidence that it is necessary to do so. That is why we have taken powers to cap liabilities for spaceflight activities on a discretionary basis under the Bill. We are already undertaking work on assessing the availability and cost of insurance to cover the liabilities. That work will inform any policy on limiting the level of any cap on the liability both to indemnify government and to prescribed persons.

The flexibility provided by the powers in the Bill means that the right balance can be created for each mission, based on the risks involved. The Bill is designed to ensure that spaceflight activity is as safe as possible in the first place, which will minimise any liability arising.¹⁴¹

The Government did confirm it intended to bring an amendment in the House of Commons to make the requirement that the Secretary of State indemnify claimants under Clause 34(3) mandatory.¹⁴² This confirmation followed an amendment to this effect tabled by Lord Tunnicliffe (Lab) during the Report stage.¹⁴³

¹⁴¹ [HL Deb, 16 October 2017, c436–437.](#)

¹⁴² [HL Deb, 14 November 2017, c1964.](#)

¹⁴³ [HL Deb, 14 November 2017, c1962](#) (amendment 15).

5. Reaction and comment on the Bill

5.1 Pre-legislative scrutiny by the Science and Technology Committee

The Science and Technology Committee welcomed the *Draft Spaceflight Bill* and commented that there was support from industry. Several of the Committee's concerns regarding delegated powers and the provisions regarding licencing and insurance in the Bill are discussed in section 3.1 (delegated powers); section 3.2 (licencing system) and section 4.3 (liability, indemnity and insurance).

The Committee also noted that the Impact Assessment produced by the Government was published in September 2016 as part of the Government's Modern Transport Bill, and has not been updated since the Government decided to legislate for spaceflight separately. The Committee recommended that the Government produce an updated Impact Assessment along with any revised version of the Bill.¹⁴⁴ The Government response stated that it did not consider it was necessary to produce a new Impact Assessment as the underlying evidence base for the Bill had not changed.¹⁴⁵ It stated that Impact Assessments would be produced during the subsequent programme of secondary legislation.

The Committee also highlighted that some industry respondents commented that the terminology used in the Bill was not consistent with industry practice.¹⁴⁶ The Government response stated that a 'mapping' exercise had been carried out to ensure that terms reflected international norms as closely as possible. The Government also highlighted that the Bill sought implement the UK's international legal obligations and therefore terminology consistent with the UN space treaties had been used.¹⁴⁷

5.2 Industry comment

In evidence submitted to the Science and Technology Committee's Draft Spaceflight Bill inquiry, the Government's intention to reform the legal and regulatory framework for spaceflight activities was welcomed by representatives from the space industry, such as the Royal Aeronautical Society, Virgin Galactic and Airbus.¹⁴⁸

¹⁴⁴ House of Commons Science and Technology Committee, *Draft Spaceflight Bill*, [HC1070](#), 29 April 2017, para 21.

¹⁴⁵ Department of Transport, *Government Response to the Science and Technology Committee report 'The Draft Spaceflight Bill'*, June 2017, [CM 9465](#), page 4.

¹⁴⁶ House of Commons Science and Technology Committee, *Draft Spaceflight Bill*, [HC1070](#), 29 April 2017, para 11.

¹⁴⁷ Department of Transport, *Government Response to the Science and Technology Committee report 'The Draft Spaceflight Bill'*, June 2017, [CM 9465](#), page 3.

¹⁴⁸ House of Commons Science and Technology Committee, *Draft Spaceflight Bill* inquiry, '[Written evidence submitted by Airbus](#)', March 2017 (SFB009); '[Written evidence submitted by the Royal Aeronautical Society](#)', March 2017 (SFB0010); '[Written evidence submitted by Virgin Galactic](#)', March 2017 (SFB0011).

The main area of concern for industry is the lack of a mandatory liability cap on the face of the Bill.¹⁴⁹ In July 2017, UKSpace, the trade association for the UK Space Industry, sent a [letter](#) to the Science Minister, Jo Johnson, raising concerns about the lack of clarity regarding the level of the liability cap, if any, that would be imposed.¹⁵⁰ The Minister replied:

"given the emerging state of the UK launch and sub-orbital sectors, the Bill should provide for flexibility, rather than bind any future operational policy decisions. This will no doubt be subject to further debate as the Bill continues its passage through Parliament."

[...]

"The Bill will retain the "may" wording... However, whilst we cannot commit to a particular approach in relation to any particular future application, it is the Government's current policy intention to continue capping operators' indemnity to the UK Government in licence conditions for the activities of i) procuring the launch of a space object and ii) the operation of a satellite in orbit... The Government therefore proposes to maintain the current policy position in respect of these activities." ¹⁵¹

¹⁴⁹ ['UK space industry warns over loss of liability cap'](#), *Financial Times*, 28 June 2017.

¹⁵⁰ [Letter](#) to Jo Johnson from Andy, President of UKSpace, 11 July 2017.

¹⁵¹ Bird & Bird, [Satellite Bulletin July 2017: Limit on the Liability of Satellite Launch and Operations Licence Holders in the UK](#), 19 September 2017.

6. Commons second reading and Committee stages

6.1 Second reading

The Space Industry Bill passed second reading in the House of Commons on 15 January 2018 without going to division. In general, there was broad cross-party support for the Bill and its intention to promote and develop the space industry in the UK. Many members highlighted space activities occurring in their constituencies and welcomed the Bill accordingly.

Shadow Secretary of State for Transport (Andy McDonald) outlined the areas of the Bill on which the Opposition would seek changes during the Committee and Report stages. These included seeking changes or clarity on the delegated powers in the Bill, environmental protections, health and safety regulation, and land powers.¹⁵² SNP member, Dr Philippa Whitford, highlighted her concerns regarding the issue of unlimited liability and the lack of draft regulations to scrutinise.¹⁵³

6.2 Committee stage

The Bill passed the Committee stage in the House of Commons on 23 January 2018 after two sessions held on that day. The Bill passed with one new clause added (regarding environmental impact assessments). Amendments were also made to (then) Clause 34 regarding compensation for third parties. Both changes were unopposed Government amendments that were foreshadowed during the House of Lords Report stage.

Amendments to the Bill

Environmental assessments

Debate in the Committee stage begun with an Opposition motion to move amendment 13, which sought add environmental protections to the list of considerations in Clause 2 that the regulator is required to take into account. In response, the Government spoke to **New Clause 1**.¹⁵⁴ The new clause tabled by the Government (now Clause 11) requires that spaceport and space operator licences cannot be awarded unless the applicant has submitted an environmental impact assessment. The regulator is required to have regard to the assessments when considering whether to grant a licence and what conditions to attach to it

The new clause followed discussion during the House of Lords which identified several gaps in the Bill regarding environmental protections. Transport Minister, Jo Johnson, explained that New Clause 1 intended to address those gaps:

¹⁵² [HC Deb, 15 January 2018](#), c651–653.

¹⁵³ [HC Deb, 15 January 2018](#), c659–660.

¹⁵⁴ [PBC Deb, 23 January 2018](#), c40–41.

Following constructive debates in the other place on environmental issues, the Government reviewed the compatibility of the existing planning and environmental framework with spaceflight activities. During that review, certain situations were identified where the existing framework may not provide the environmental protection that we all wish to be required of spaceflight activities. Discussions have since taken place across Government to address that potential gap, resulting in the tabling of Government new clause 1.

New clause 1 will place a mandatory requirement on an applicant for either a launch or a spaceport licence to submit an assessment of the environmental effects of their proposed activity as a precondition of receiving a licence. That duty will ensure that appropriate assessments of environmental effects are conducted by the operator or spaceport licensee and considered by the regulator prior to the determination of an application for a licence.¹⁵⁵

See page 22 above for discussion of the Lords consideration. The new clause was passed unopposed and is now Clause 11 of the Bill for Report stage. Opposition amendment 13 was withdrawn.

Third party compensation

The Government moved amendments 1–4 to **Clause 34** (now Clause 35) to require the Secretary of State to indemnify uninvolved third parties who suffer losses that exceed the amount of the operators capped liability (should it be so capped). The Secretary of State for Transport, Jo Johnson, explained that the amendment would change the power of the Secretary of State to indemnify uninvolved powers into a duty to do so:

As we discussed, clause 33(5) provides a power to make regulations that enable a regulator to specify a cap on an operator's liability for injury or damage arising out of their spaceflight activities to prescribed persons, or in prescribed circumstances. Those persons and circumstances would be set out in regulations, but we envisage that a cap would be on an operator's liability to the uninvolved general public who suffer injury or damage as a result of spaceflight activities. As that liability, can be capped, clause 34(3), as drafted, provides the Secretary of State with a power to indemnify a claimant in situations where injury or damage caused by spaceflight activities exceeds an apparatus capped liability amount.

Having listened carefully to the debate in the other place, the Government agree that it is right to go further, and the amendments turn the power under clause 34(3) into a duty, and ensure that the Government must pay the remaining compensation above that amount. I am sure that that will be welcomed by hon. Members, as it reflects the desire on both sides of the House to ensure that third parties will rightly never miss out.¹⁵⁶

See page 26 above for discussion of the Lords consideration regarding a similar amendment raised there.

¹⁵⁵ [PBC Deb, 23 January 2018](#), c5.

¹⁵⁶ [PBC Deb, 23 January 2018](#), c33–34.

Clause 34(5) allows regulations to set limits on the amounts that the Secretary of State may or must pay under Clause 34. There has been no discussion of whether regulations will be made to set any such limits.

Unsuccessful amendments

Planning powers

The Opposition tabled amendments 17 and 18 which would introduce a requirement to **Clause 12** to consult the Environment Agency (or equivalent body in the devolved legislatures) and relevant local planning authorities with respect to deciding licence conditions.¹⁵⁷

Dr Philippa Whitford (SNP) tabled amendment 12 to **Clause 40**, which sought to require the consent of the devolved Administrations before a land order under Clauses 38 or 40 is made.¹⁵⁸ Debate in Committee shadowed arguments made in the House of Lords on this topic, raising concerns that the powers in Clauses 38 and 40 may potentially encroach on planning powers which are devolved. See page 24 above for discussion.

Both amendments went to divisions, which fell 10 votes to 7.

Delegated powers

Opposition amendment 21 sought to amend **Clause 67** to require that regulations under specified sections be subject to the super-affirmative procedure.¹⁵⁹ See discussion of the House of Lords consideration of this topic at page 21 above. The amendment was withdrawn after debate.

Liability

There were several amendments tabled regarding the liability cap of operators to indemnify the Government and/or third parties.

SNP spokesperson, Dr Philippa Whitford, moved motions to secure a mandatory cap on both the operator's liability against uninvolved third parties and the liability to indemnify the Government against claims for loss or damage brought against it. She argued that industry requires certainty that liability caps will be implemented and that absence of certainty regarding a cap would inhibit the competitiveness of the UK space industry.¹⁶⁰ The Minister argued that there had not yet been adequate consultation on the appropriateness of a cap on liability in respect of space activities launched from the UK, where the risk for UK taxpayers is greater than for activities launched overseas.¹⁶¹ For further discussion see page 26 above.

SNP amendment 5 to **Clause 11(2)**, which sought to make it mandatory that licence conditions specify a cap on liability, was pushed to a division and fell 2 votes to 10.¹⁶²

¹⁵⁷ [PBC Deb, 23 January 2018](#), c13–15.

¹⁵⁸ [PBC Deb, 23 January 2018](#), c34–37.

¹⁵⁹ [PBC Deb, 23 January 2018](#), c37–40.

¹⁶⁰ [PBC Deb, 23 January 2018](#), c10–12.

¹⁶¹ [PBC Deb, 23 January 2018](#), c11–12.

¹⁶² [PBC Deb, 23 January 2018](#), c12.

Shadow Transport Minister, Karl Turner, tabled an amendment to **Clause 33** that would remove the immunity for spaceport operators against claims in trespass and nuisance for activities carried out substantially in compliance with the Act.¹⁶³ Mr Turner sought assurances from the Minister that people living around spaceports would have sufficient protection from noise nuisance. The Minister explained that the clause mirrors section 76(1) of the *Civil Aviation Act 1982*. The amendment was withdrawn after debate.

Remaining amendments and questions

The Opposition tabled amendment 19 that would require enforcement authorisations under **Clause 32** to be referred to a justice of the peace for post-hoc evaluation. The SNP supported the amendment. See pages 26 above for discussion of the arguments raised in the House of Lords, which were made again here. The amendment was pushed to a division which fell 10 votes to 7.

The SNP tabled **New Clause 2** that would require the Secretary of State to carry out an assessment of potential impact of leaving the EU on the UK space industry, and for the assessment to be laid before Parliament within one year of the Act passing Royal Assent. The new clause was withdrawn after debate.

Opposition amendment 14 to **Clause 9** was a probing amendment to ask the Minister to clarify the relationship between the HSE and the CAA, as well as how information sharing of best practice will operate between the CAA and UK Space Agency.¹⁶⁴ The Minister explained how Clause 9 would operate to ensure risk assessments were undertaken before licences were granted.¹⁶⁵ A Memorandum of Understanding between the HSE and the CAA is available on the CAA website.¹⁶⁶

Questions were raised regarding:

- The provision of range control services (Clause 7): the Minister confirmed that the Government intention was that range control services would be provided commercially.¹⁶⁷
- Spaceport byelaws: the Minister confirmed that byelaws would be enforced by local police forces.¹⁶⁸
- Safety issues raised by drones and lasers: the Minister confirmed that legislation on drones would be introduced in spring 2018.¹⁶⁹
- Relationships with International and European space organisations: the Minister outlined the UK arrangements with European space programmes and undertook to write to the Committee regarding corporation with space debris agencies.¹⁷⁰

¹⁶³ [PBC Deb, 23 January 2018](#), c27–28.

¹⁶⁴ [PBC Deb, 23 January 2018](#), c7.

¹⁶⁵ [PBC Deb, 23 January 2018](#), c7–8.

¹⁶⁶ Civil Aviation Authority, [The CAA, HSE and HSENI](#) [accessed 2 February 2018].

¹⁶⁷ [PBC Deb, 23 January 2018](#), c6.

¹⁶⁸ [PBC Deb, 23 January 2018](#), c19.

¹⁶⁹ [PBC Deb, 23 January 2018](#), c18.

¹⁷⁰ [PBC Deb, 23 January 2018](#), c21.

7. Report and third reading

Report stage is scheduled for 7 February 2018.

8. Further reading

- Bill documents:
 - [Explanatory Notes](#), published 29 November 2017
 - [Delegated powers memorandum](#), prepared by the Department of Transport for the Lords stages, published 28 June 2017.
- [Policy scoping notes](#) published by the Department of Transport, UK Space Agency and Department of Business Energy and Industrial Strategy on 11 July 2017.
- Lords Constitution Committee report: Second report of session; [HL18](#), 8 September 2017
- Lords Delegated Legislation Committee: First report of session, [HL 10](#), 13 July 2017).
- [House of Lords Library briefing paper](#) prepared for the Lords stages of the Bill, 5 July 2017.
- [House of Commons Science and Technology Committee Inquiry into the Draft Spaceflight Bill](#), 2017.
- House of Commons Library briefing paper, [Outer Space](#), 10 March 2017.
- [UK Commercial Space Activities](#), POST Note 514, December 2015.
- UK Space Agency, [The Size and Health of the UK Space Industry 2016](#), December 2016.
- HM Government, [National Space Policy](#), December 2015.
- Civil Aviation Authority, [Commercial spaceplane certification and operations: UK government review](#), July 2014.

About the Library

The House of Commons Library research service provides MPs and their staff with the impartial briefing and evidence base they need to do their work in scrutinising Government, proposing legislation, and supporting constituents.

As well as providing MPs with a confidential service we publish open briefing papers, which are available on the Parliament website.

Every effort is made to ensure that the information contained in these publicly available research briefings is correct at the time of publication. Readers should be aware however that briefings are not necessarily updated or otherwise amended to reflect subsequent changes.

If you have any comments on our briefings please email papers@parliament.uk. Authors are available to discuss the content of this briefing only with Members and their staff.

If you have any general questions about the work of the House of Commons you can email hcenquiries@parliament.uk.

Disclaimer

This information is provided to Members of Parliament in support of their parliamentary duties. It is a general briefing only and should not be relied on as a substitute for specific advice. The House of Commons or the author(s) shall not be liable for any errors or omissions, or for any loss or damage of any kind arising from its use, and may remove, vary or amend any information at any time without prior notice.

The House of Commons accepts no responsibility for any references or links to, or the content of, information maintained by third parties. This information is provided subject to the [conditions of the Open Parliament Licence](#).