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TRENDS IN TRANSPORT – DRAFT SPACE INDUSTRY REGULATIONS AND CONSULTATION

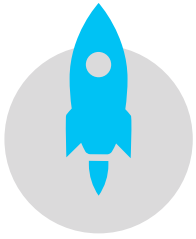
PART 3

DRAFT SPACE INDUSTRY REGULATIONS – INTRODUCTION

In our previous Trends in Transport piece we explored the regulatory context for the draft Space Industry Regulations (the Draft Regulations) and the existing framework of international and domestic laws applicable to space activities. This article will summarise some of the key features of the proposed regime as set out in the Draft Regulations.

KEY FEATURES





LICENCES AND ELIGIBILITY

REQUIREMENT TO HOLD A LICENCE: THE GENERAL RULE PURSUANT TO CLAUSE 3 OF THE ACT STATES THAT A PERSON MUST NOT (1) CARRY OUT SPACEFLIGHT ACTIVITIES IN THE UK OR (2) OPERATE A SPACEPORT IN THE UK, WITHOUT A LICENCE.

TYPES OF LICENCES

The Act originally intended 3 types of licence (Operator Licence, Spaceport Licence and Range Control Licence), however, following further discussions, the Draft Regulations now envisage 5 licences.



1. LAUNCH OPERATOR LICENCE

This licence will be required if a person or organisation intends to launch a launch vehicle or use a carrier aircraft to assist with a launch of a launch vehicle (known as a spaceflight operator).



2. RETURN OPERATOR LICENCE

This licence will be required if a person or organisation intends to operate a launch vehicle to be launched into orbit from outside the UK and for that vehicle to land in the UK (also known to as a spaceflight operator).



3. ORBITAL OPERATOR LICENCE

This licence will be required if a person or organisation intends to procure a launch, operate a space object or conduct other activity in outer space (including orbits other than Earth's).



4. SPACEPORT LICENCE

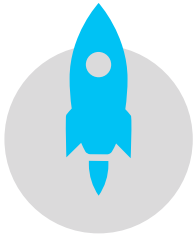
This licence will be required if a person or organisation intends to operate a spaceport (a site from which spacecraft or carrier aircraft can be launched or a site at which controlled and planned landings of spacecraft can take place).



5. RANGE CONTROL LICENCE

This licence will be required if a person or organisation intends to carry out range control services in relation to spaceflight activities (including identifying an appropriate range, coordinating the use of a range, issuing protective notifications and monitoring the range).





ELIGIBILITY CRITERIA AND PRESCRIBED ROLES

The Act set out the prescribed roles and eligibility criteria for holders of range control, spaceport or operator licences. Chapter 1 of Part 3 of the Draft Regulations does just that, setting out the minimum requirements (i.e. the eligibility criteria) to become a licensee or to perform a prescribed role.



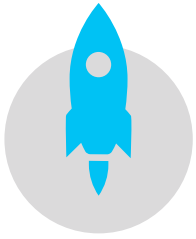
ELIGIBILITY CRITERIA:

The Regulations specify that any prospective licensee and any individual carrying out a prescribed role must not:

- be an undischarged bankrupt;
- be the subject of a bankruptcy restrictions order or undertaking, a debt relief restrictions order or undertaking or a moratorium period under a debt relief order; and
- have been convicted of any offence involving fraud or dishonesty or any indictable offence unless the conviction is spent.

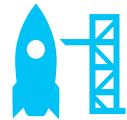
[\(Regulation 6 of the Draft Regulations\)](#)





PRESCRIBED ROLES:

The Draft Regulations also set out specific prescribed roles that licensees must have for each type of licence:



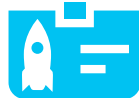
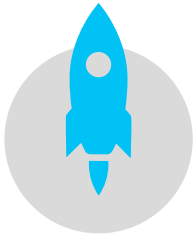
1. SPACEPORT LICENCE:

- an accountable manager, to establish and maintain an effective management system and ensure licensed activities can be financed and carried out in accordance with the Space Industry Act 2018 and licence conditions;
- a safety manager, responsible for day to day development, administration and maintenance of an effective safety management system, examining activity to ensure licensed activities are carried out safely and monitoring those involved with activities to ensure compliance with safety policies and procedures;
- a security manager, responsible for all security aspects of the licensee's activities; and
- a training manager, responsible for the conduct and management of the licensee's training programme.

The Draft Regulations specify that the same individual can undertake one or more of these roles.

(Regulation 7)





2. OPERATOR LICENCES:

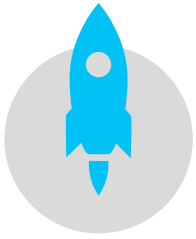
SPACEFLIGHT OPERATOR LICENCE

- an accountable manager (regulation 8 of the Draft Regulations);
- a safety manager;
- where spaceflight activities are also authorised by a launch operator licence, a:
 - a launch director, responsible for ensuring safety concerns are addressed prior to launch;
 - a training manager; and
 - a security manager.

The Draft Regulations specify that the same individual can undertake one or more roles, save that the role of safety manager and launch director cannot be carried out by the same individual.

(Regulation 9)





3. ANY OTHER OPERATOR LICENCE (I.E. RETURN OPERATOR LICENCE AND ORBITAL OPERATOR LICENCE)

- an accountable manager (regulation 8 of the Draft Regulations); and
- where the operator is carrying out activities which may give rise to any issue of national security, a security manager (regulation 10 of the Draft Regulations).

Where the identity of any individual carrying out a prescribed role changes, the licensee must inform the Regulator in writing and either in advance of or as soon as possible after making the change (regulation 12 of the Draft Regulations). Any licensee who does not do so and cannot demonstrate that it took all reasonable steps and exercised all due diligence to do so, commits an offence (regulation 13 of the Draft Regulations). Penalties include a fine and/or imprisonment for a maximum of 2 years.



4. RANGE CONTROL LICENCE

- a range safety manager responsible for safety in the operation of the designated range and for any safety elements of the operator's spaceflight activities to be carried out by personnel of the range control licensee;
- a range operations manager responsible for ensuring that the range control licensee's licensed activities are properly and safely undertaken in accordance with the licence, Act and Draft Regulations;
- a security manager; and
- a training manager.

The Draft Regulations specify that the same individual can undertake one or more roles.

(Regulation 11)





THE SAFETY CASE (AND OTHER KEY LICENSING REQUIREMENTS)

SPACEFLIGHT OPERATOR SAFETY CASE

SPACEFLIGHT OPERATOR LICENCE APPLICANTS (LAUNCH OPERATOR, RETURN OPERATOR AND ORBITAL OPERATOR LICENCE APPLICANTS) WILL ALSO BE REQUIRED TO DEMONSTRATE THAT THEY HAVE REDUCED RISKS TO PERSONS OTHER THAN CREW AND SPACEFLIGHT PARTICIPANTS TO AS LOW AS REASONABLY PRACTICABLE (ALARP).

The ALARP principle will require a spaceflight operator to weigh all risks against the trouble, time and money required to control the risk. Any residual risk must be acceptable to the Regulator.

[\(Section 9 of the Space Industry Act 2018\)](#)

The Draft Regulations require relevant applicants to conduct:

- a flight safety analysis, to identify major accident hazards that could (1) arise from or cause a major accident and/or (2) arise from the launch vehicle or any part of it, during spaceflight activities; and
- a ground safety analysis, to identify major accident hazards that could arise (1) during preparations for the launch and/or (2) from the launch vehicle or any part of it, upon or after landing.

For each major accident hazard identified during the flight and ground safety analyses, the relevant applicant must then evaluate the risk of such a major accident occurring and define appropriate measures to prevent and/or mitigate the major accident hazard. The applicant must also define performance standards for the prevention and mitigation measures, and produce a safety operations manual (which will also need to be provided to the Regulator as part of their application).

[\(Regulations 29-31\)](#)





The relevant applicant will then be required to submit a 'Safety Case' to the Regulator. The detailed requirements for this document are set out in Schedule 1 to the Draft Regulations, but it should include general information about the spaceflight activities, technical information and the flight and ground safety analyses. It should demonstrate that all risks are ALARP.

[\(Regulations 32-33\)](#)

To the extent that spaceflight activities involve 'human occupants' (crew and spaceflight participants only), the relevant applicant will also need to conduct a risk assessment for those human occupants and submit this to the Regulator in addition to the Safety Case. The risk assessment does not need to demonstrate that all risks are ALARP, nor do the risks need to be acceptable to the Regulator. However, the licensee will be subject to additional safety requirements relating to the crew and the essential systems, emergency equipment and atmospheric conditions on board the launch vehicle. The applicant will need to be able to demonstrate to the Regulator that it can comply with such additional safety requirements.

[\(Regulations 34-36\)](#)





SPACEPORT OPERATOR SAFETY CASE, SAFETY CLEAR ZONE REQUIREMENT AND SITING ASSESSMENT

Spaceport licence applicants will also be required to submit a 'Safety Case'. The safety case must include details of spaceport users, a description and plan of the spaceport and/or aerodrome and the vicinity and a description of activities likely to be carried out from the spaceport. The safety case should also include an assessment of possible accident or incident scenarios in order to identify potential hazards and risks at the spaceport, the possible consequences and their likelihood and the mitigation measures that would be applied. Importantly, the safety case must be based on the actual launch vehicles that will be used at the spaceport, or if these are not known, the types of vehicles it envisages being used.

[\(Regulation 39\)](#)

Unless the safety case demonstrates that a safety clear zone will not be required for hazardous pre-flight or post-flight operators, the relevant applicant must show that it will be able to put in place an appropriate safety clear zone to reduce risk to any person in the vicinity.

[\(Regulation 40\)](#)

The relevant applicant must also conduct a siting assessment in relation to the site of the proposed spaceport based on the launch vehicle which estimates (numerically) the annualised risk of death or serious injury to members of the public posed by the spaceflight activities proposed.

[\(Regulation 41\)](#)

Importantly, an applicant for a Range Control Licence will not be required to submit a safety case to the Regulator. They will however be required to have a safety management system in place under existing health and safety legislation.





LOCATION REQUIREMENTS

Spaceport licence applicants will apply for a either vertical or horizontal spaceport licence or both. A horizontal spaceport must be located at a CAA licensed or EASA certified aerodrome and NASP directed.

(Regulation 38)

APPLICATION PROCESS:

APPLICATIONS MUST BE MADE IN WRITING IN A SPECIFIED FORM TO THE REGULATOR AND BE ACCOMPANIED BY ALL ADDITIONAL INFORMATION REQUIRED (REGULATION 20 OF THE DRAFT REGULATIONS). AS WELL AS THE INFORMATION IDENTIFIED IN THE DRAFT REGULATIONS THEMSELVES, FURTHER GUIDANCE IS GIVEN IN THE REGULATOR'S LICENSING RULES (A DRAFT OF WHICH WAS PUBLISHED WITH THE DRAFT REGULATIONS).

If an applicant satisfies the eligibility criteria then the Regulator will consider their application and in particular whether granting the licence:

- will impair the national security of the UK;
- is consistent with the international obligations of the UK;
- is not contrary to the national interest.
- whether an applicant has the necessary financial and technical resources to do what is authorised by the licence; and
- whether the applicant, and persons who would perform licence functions on behalf of the applicant, are fit and proper to do so.

(Section 8 of the Act)

To the extent that the Regulator is satisfied then the Regulator may grant the licence if it thinks fit.







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