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STATUTORY INSTRUMENTS

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**2021 No. 792**

**The Space Industry Regulations 2021**

**PART 6**

**Range Control Services**

**CHAPTER 1**

**Interpretation**

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**41.** In this Part—

“communication network” means a set of individuals connected to each other by real time communicative interaction;

“current safety case” has the meaning given in regulation 78(1);

“designated place” means—

- (a) a place other than a site at which the operator’s spaceflight activities are to be carried out, or
- (b) where the operator’s spaceflight activities include a controlled and planned landing of a launch vehicle or a planned but uncontrolled landing of such a vehicle at a place other than a site, that place;

“designated site” means—

- (a) a spaceport at which the operator’s spaceflight activities are to be carried out, or
- (b) where the operator’s spaceflight activities include a controlled and planned landing of a launch vehicle or a planned but uncontrolled landing of such a vehicle at a site other than a spaceport, that site;

“exclusion zone” has the meaning given in regulation 47(4)(a);

“hazard area” has the meaning given in regulation 47(1);

“land” means land situated in the United Kingdom;

“licence” means a range control licence(1);

“licensee” means the holder of a range control licence;

“the licensee’s range control services” means the particular range control services(2) that are authorised by the licence held by the licensee;

“monitoring functions” means surveillance activities conducted in respect of the designated range, and references to “monitoring” are to be construed accordingly;

“relevant agreement” has the meaning given in regulation 43;

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(1) “range control licence” has the meaning given in section 7(2) of the Space Industry Act 2018.

(2) “range control services” has the meaning given in section 6(1) of the Space Industry Act 2018.

- “relevant authorities” has the meaning given in regulation 44;  
 “restricted zone” has the meaning given in regulation 47(4)(b);  
 “warning zone” has the meaning given in regulation 47(4)(c).

## CHAPTER 2

### Requirements about the licensee’s capability

#### **The licensee’s organisation and management**

**42.**—(1) The matters which the licensee must ensure are in place to provide the licensee’s range control services in support of the operator’s spaceflight activities include—

- (a) the equipment, financial and technical resources necessary to provide those range control services and do any other matter authorised by the licence;
- (b) where the licensee’s range control services consist of or include the management of the designated range, the capability to ensure that the licensee is able to exercise effective control over each zone<sup>(3)</sup> comprised in the designated range prior to and during the operator’s spaceflight activities, including co-ordinating operations with the spaceflight operator and the relevant authorities;
- (c) where the licensee’s range control services consist of or include the issue of notifications in connection with monitoring the designated range, the capability to issue notifications or ensure that such notifications are issued by the relevant authorities;
- (d) where the licensee’s range control services consist of or include the identification of the designated range, the technical capability to identify a range taking account of the operator’s spaceflight activities and the characteristics of the designated site or place;
- (e) where the licensee’s range control services consist of or include the tracking of the launch vehicle, the technical capability—
  - (i) where the operator’s spaceflight activities are authorised by a launch operator licence, to track the position of the launch vehicle from launch to the point at which the licensee’s responsibility for tracking the launch vehicle ceases, as provided in the current safety case for the operator’s spaceflight activities;
  - (ii) where the operator’s spaceflight activities are authorised by a return operator licence, to track the position of the launch vehicle until that vehicle lands in the United Kingdom, as provided in the current safety case for the operator’s spaceflight activities;
- (f) where the licensee’s range control services consist of or include monitoring functions, the technical ability to conduct surveillance of the designated range in order to detect the position and speed of objects, including ships and aircraft, entering the designated range prior to and during the operator’s spaceflight activities;
- (g) sufficient suitably qualified and experienced employees or agents to do the things authorised by the licence and an appropriate management structure;
- (h) effective communication networks to enable all parties involved in the provision of the licensee’s range control services to communicate with each other and with persons involved in the operator’s spaceflight activities during the provision of the licensee’s range control services;
- (i) facilities or infrastructure;
- (j) the capability to comply with—

(3) See section 5(1) of the Space Industry Act 2018 for the definition of “zone”.

(i) all relevant requirements under any enactment relating to the provision of the licensee's range control services including health and safety requirements, and

(ii) any requirement contained in a condition subject to which the licence is granted.

(2) In paragraph (1)(i) "facilities or infrastructure" include facilities or infrastructure relating to communications, the collection and retention of information and data, and access to a supply of electrical power and other utilities.

(3) The licensee must ensure that the supply of electrical power and other utilities referred to in paragraph (2) is provided and maintained so as to ensure that the provision of the licensee's range control services is not interrupted or compromised prior to or during the operator's spaceflight activities.

## CHAPTER 3

### Agreements with relevant authorities

#### Relevant agreements

**43.—**(1) Where the licensee's range control services consist of or include monitoring the designated range, before commencing those services, the licensee must enter into an agreement in writing (a "relevant agreement") with the following persons (each a "relevant authority")—

(a) the person specified in regulation 44(a), and

(b) where United Kingdom territorial waters fall within the designated range, each of the persons specified in regulation 44(b) and (c)

and provide a copy of such agreement to the regulator.

(2) A relevant agreement must—

(a) relate to the provision of the licensee's range control services in respect of the operator's spaceflight activities at the designated site or place;

(b) set out the terms under which the licensee will co-operate with the relevant authority to ensure the effective and safe operation of the range prior to and during the operator's spaceflight activities including—

(i) the information which the licensee must provide to the relevant authority in order for the relevant authority to fulfil its function of issuing notifications to third party air users and mariners;

(ii) the time period within which and the format in which such information must be provided;

(iii) the procedures for communication between the parties to the relevant agreement.

(3) The licensee must review the relevant agreement on an annual basis to determine whether, having regard to its operation over the preceding period of 12 months, any amendment is appropriate or necessary and the first review must take place on the first anniversary (with subsequent reviews taking place on each subsequent anniversary) of the date of the relevant agreement.

(4) If, following such review, the licensee considers that an amendment to the agreement is appropriate or necessary, it must take all reasonable steps to agree an amendment to the relevant agreement with the relevant authority which it considers reasonably necessary to address matters arising out of the review.

(5) The licensee must not terminate or enter into any amendment to a relevant agreement unless it has notified the regulator and obtained the regulator's prior written approval to such termination or amendment.

(6) If a relevant agreement is terminated by a party other than the licensee (a “terminated agreement”), the licensee must, without delay, notify the regulator and take steps to enter into an agreement in place of the terminated agreement (a “replacement agreement”) and the provisions of this regulation apply to the replacement agreement as they applied to the terminated agreement.

### **Relevant authorities**

**44.** The relevant authorities are—

- (a) the appropriate air navigation service provider for aircraft flying in the volume of airspace falling within the designated range;
- (b) Her Majesty’s Coastguard or such other appropriate management organisation having responsibility for the United Kingdom territorial waters, if any, falling within the designated range;
- (c) the United Kingdom Hydrographic Office<sup>(4)</sup>.

### **Communication with relevant authorities**

**45.—**(1) The licensee must establish and maintain appropriate means of communication with the relevant authorities to enable—

- (a) the parties to the relevant agreements to co-ordinate the monitoring of the movements of third party air users and mariners which might pose a hazard to the operator’s spaceflight activities or to which the operator’s spaceflight activities might pose a hazard;
- (b) warnings to be issued to third party air users and mariners or other action to be taken with a view to avoiding or mitigating any loss or damage which may otherwise be caused—
  - (i) to the operator’s spaceflight activities by such third parties’ actions, or
  - (ii) to such third parties resulting from the operator’s spaceflight activities.

(2) The licensee must ensure that the means of communication which it has established with the relevant authority referred to in regulation 44(a) is a communication network which permits real time contact between their respective personnel during the operator’s spaceflight activities.

## **CHAPTER 4**

### **The range and hazard areas**

#### **Identification of the designated range**

**46.—**(1) Where the licensee’s range control services consist of or include identifying an appropriate range for the operator’s spaceflight activities, prior to the commencement of the operator’s spaceflight activities, the licensee must—

- (a) identify an appropriate range for the operator’s spaceflight activities, taking into account the matters referred to in paragraph (2), and
  - (b) provide details of the range set out in paragraph (3) to the persons mentioned in paragraph (4).
- (2) The matters to be taken into account under paragraph (1)(a) include—
- (a) the characteristics of the launch vehicle;
  - (b) the planned trajectory of the launch vehicle;
  - (c) the capabilities of the equipment to be used by the licensee in the provision of the licensee’s range control services;

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(4) “the United Kingdom Hydrographic Office” is an executive agency of the Ministry of Defence.

- (d) relevant environmental and meteorological conditions which will apply prior to and during the launch, flight or a controlled and planned landing or a planned but uncontrolled landing, as the case may be, of the launch vehicle including the information provided by the spaceflight operator referred to in regulation 97(2);
- (e) areas of population and activities regularly conducted by individuals not involved in the operator's spaceflight activities—
  - (i) at or in the vicinity of the designated site or place, or
  - (ii) in any other area in respect of which the operator's spaceflight activities may pose a risk to the health, safety or property of such areas of population or individuals.
- (3) The licensee must, utilising meteorological, chronological and other relevant measurement systems, accurately identify—
  - (a) the locations of the designated site or place, the mission management facility<sup>(5)</sup> or ground control at a spaceport or other place, and of any relevant equipment to be used in the provision of the licensee's range control services during the operator's spaceflight activities;
  - (b) the dimensions of—
    - (i) any area of land,
    - (ii) any area of sea, and
    - (iii) the volume of airspace,falling within the designated range;
  - (c) the outer boundaries of the designated range, being the estimated location at which the launch vehicle, or any part or debris from it, may land following the activation of the flight safety system relating to the operator's spaceflight activities;
  - (d) the inner boundaries of the designated range, being the activation points for the flight safety system as provided by the spaceflight operator's current safety case.
- (4) The licensee must provide written details of the designated range without delay to—
  - (a) the regulator,
  - (b) the spaceflight operator, and
  - (c) the spaceport licensee authorised to operate the spaceport at the designated site.

### **Identification of hazard areas**

47.—(1) This regulation applies where the licensee's range control services consist of or include identifying a volume of airspace or an area or areas of land or sea falling within the designated range (a "hazard area") which require to be made subject to restrictions, exclusions or warnings for keeping the area clear at relevant times of—

- (a) persons or things that might pose a hazard to the operator's spaceflight activities, and
  - (b) persons or things to which the operator's spaceflight activities might pose a hazard.
- (2) Prior to the commencement of the operator's spaceflight activities, the licensee must identify the dimensions, location and boundary of each hazard area and must promulgate—
- (a) which part or parts of the hazard area should be designated—
    - (i) an exclusion zone,
    - (ii) a restricted zone, and

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(5) "mission management facility" is defined in section 69(1) of the Space Industry Act 2018 as having the meaning given in section 19(4).

- (iii) a warning zone, and
- (b) the time periods within which such zones should be operative.
- (3) The licensee must communicate the information in paragraph (2), in relation to each hazard area, without delay to—
  - (a) the regulator,
  - (b) the spaceflight operator,
  - (c) the spaceport licensee authorised to operate the spaceport at the designated site, and
  - (d) the relevant authorities.
- (4) In paragraph (2)—
  - (a) an “exclusion zone” is part of a hazard area to which entry by any vehicle, ship, aircraft, or other craft, individual or domestic animal is excluded;
  - (b) a “restricted zone” is part of a hazard area to which entry is restricted to authorised individuals whose presence is necessary for the carrying out of spaceflight activities or for the performance of duties in connection with such activities;
  - (c) a “warning zone” is part of a hazard area to which entry is not restricted but which is subject to a requirement to provide a warning notice in accordance with regulation 51.

### **Monitoring of a hazard area**

- 48.** Where the licensee’s range control services consist of or include monitoring a hazard area, the licensee must ensure that—
- (a) appropriate measures are taken to protect an exclusion zone or restricted zone from unauthorised entry during time periods within which the zones are operative, and
  - (b) a warning notice has been issued in respect of a warning zone in accordance with regulation 51.

## **CHAPTER 5**

### **Notification requirements**

#### **Requirement to notify persons**

- 49.**—(1) Where the licensee’s range control services consist of or include the issue of notifications in connection with monitoring the designated range, the licensee must notify the persons listed in paragraph (2) of certain information relating to the operator’s spaceflight activities in accordance with regulation 50.
- (2) The persons referred to in paragraph (1) are—
- (a) the local authority<sup>(6)</sup> in whose administrative area any area of land comprised in the designated range is situated, whether wholly or partially;
  - (b) the emergency services which are relevant to the location of the designated site or place;
  - (c) the regulator;
  - (d) every owner, lessee or occupier of any part of the land falling within the designated range;
  - (e) any other person or organisation specified in a condition subject to which the licence is granted which the regulator considers should be notified of spaceflight activities taking place within the designated range.

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(6) “local authority” has the meaning given in section 69(1) of the Space Industry Act 2018.

(3) In this regulation “owner” has the meaning given in section 56 of the Civil Aviation Act 1982(7).

### **Notification requirements**

**50.**—(1) This regulation applies to the provision of a notification referred to in regulation 49.

(2) Where the notification is to be provided to a local authority, the emergency services or the regulator, the notification must be provided—

- (a) within such period prior to the commencement of the operator’s spaceflight activities,
- (b) containing such data and information, and
- (c) in such form and manner,

as the recipient may require.

(3) Where the notification is to be provided to an owner, lessee or occupier of land, the notification must—

- (a) be provided at any time not later than 4 weeks prior to the proposed date of commencement of the operator’s spaceflight activities,
- (b) contain such information regarding the nature and timing of the operator’s spaceflight activities as is reasonably necessary to ensure that the owner, lessee or occupier of land does not pose a hazard to the operator’s spaceflight activities and the operator’s spaceflight activities do not pose a hazard to the owner, lessee or occupier of land, and
- (c) be in writing and sent to the owner, lessee or occupier of the land.

(4) If it is not practicable, after reasonable enquiry, to ascertain the name or address of any owner, lessee or occupier of land to whom notification must be provided, the notification may be provided by addressing it to them by the description of “owner”, “lessee” or “occupier” of the land, with a description of the land to which the notification relates and, if there are premises situated on the land, by delivering it to some person on the premises or, if there is no person on the premises to whom it can be delivered or there are no premises, by affixing it, or a copy of it, to some conspicuous part of the premises or land (as the case may be).

(5) Where the notification is to be provided to a person or organisation referred to in regulation 49(2)(e), the notification must be provided in accordance with any terms of the condition subject to which the licence has been granted.

### **Warning notices**

**51.**—(1) Where the licensee’s range control services consist of or include monitoring a part of a hazard area designated as a warning zone, the licensee must issue a warning notice or notices in accordance with paragraph (2).

(2) A warning notice must—

- (a) contain such information as is reasonably necessary to make the individuals referred to in paragraph (3) aware of the operator’s spaceflight activities, with a view to ensuring that—
  - (i) they do not pose a hazard to the operator’s spaceflight activities;
  - (ii) the operator’s spaceflight activities do not pose a hazard to them;
- (b) be provided within a reasonable period prior to the commencement of the operator’s spaceflight activities;
- (c) be issued in a manner which is reasonably necessary to alert the individuals referred to in paragraph (3) to the operator’s spaceflight activities.

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(7) 1982 c. 16.

- (3) The individuals are—
- (a) an individual whose regular place of work is situated on any part of the land falling within the designated range, and
  - (b) any individual who might enter or traverse any part of the land falling within the designated range in exercise of a legal right, entitlement or privilege including, but not limited to, an easement or a public right of way,

but do not include excluded individuals.

- (4) The following individuals are “excluded individuals” for the purposes of paragraph (3)—
- (a) an individual who is involved with the operator’s spaceflight activities;
  - (b) an individual who is involved with the operation of the spaceport at the designated site;
  - (c) an individual who is involved with the provision of the licensee’s range control services;
  - (d) a member of the police, fire, rescue or ambulance services;
  - (e) an individual employed by, or appointed to act on behalf of, the regulator.

## CHAPTER 6

### Safety

#### **Safety and quality management systems requirement**

**52.**—(1) Without prejudice to any conditions attached to a licence, a licensee must establish and implement management systems, including a safety management system, that give due priority to safety in relation to the provision of the licensee’s range control services.

(2) The licensee must, within its management systems, make, implement and maintain adequate quality management arrangements in respect of all matters relating to the provision of the licensee’s range control services which may affect the safety of the operator’s spaceflight activities.

(3) Prior to the commencement of the licensee’s range control services, the licensee must submit to the regulator a written record of the systems and arrangements referred to in paragraphs (1) and (2).

(4) The licensee must provide prior notice to the regulator of any material alteration or amendment to the management systems or quality management arrangements referred to in paragraph (3).

(5) The licensee must provide to the regulator copies of records or documents referred to in, or relating to, such management systems or quality management arrangements as the regulator may require.

## CHAPTER 7

Applicable conditions where an operator is authorised to provide range control services in respect of the operator’s spaceflight activities

#### **Application**

**53.** This Chapter applies where a spaceflight operator is authorised by a licence to provide range control services in respect of the operator’s spaceflight activities carried out by that spaceflight operator.

#### **Conditions applying to spaceflight operator**

**54.**—(1) The spaceflight operator must establish and implement management systems so that the part of its organisation which is responsible for providing the licensee’s range control services is distinct and separate from the part of its organisation which is engaged in the operator’s spaceflight activities, in order to ensure that the performance of the obligations imposed upon the licensee



under this Part are neither compromised nor adversely affected by a conflict of interest between the different parts of the organisation.

- (2) To achieve that objective, the management systems must include—
- (a) separate personnel appointed solely to undertake roles in the provision of the licensee’s range control services;
  - (b) authorised lines of communication between the appropriate individuals involved in the provision of the licensee’s range control services and the individuals engaged in the operator’s spaceflight activities, for the transmission of data or information relating to the safety of the operator’s spaceflight activities;
  - (c) measures which ensure that the individuals appointed to the prescribed roles under regulation 11 and the other personnel involved in the provision of the licensee’s range control services report to and are managed by independent individuals;
  - (d) a process under which—
    - (i) an individual involved in the provision of the licensee’s range control services can lodge a formal complaint or concern regarding any act or omission by personnel involved in the operator’s spaceflight activities which the individual considers may compromise, or adversely affect, the proper performance of the range control services, with particular regard to the safety of the operator’s spaceflight activities,
    - (ii) a complaint or concern referred to in paragraph (i) can be properly investigated by an independent individual appointed by the spaceflight operator, and
    - (iii) appropriate action is taken in the light of the results of the investigation by the independent individual referred to in paragraph (ii).
- (3) For the purposes of this regulation, an individual is to be regarded as independent only where—
- (a) the individual’s function or role will not involve the consideration by that individual of any aspect of the operator’s spaceflight activities for which that individual bears or has borne responsibility or where that individual’s objectivity may be compromised, and
  - (b) the individual is sufficiently independent of a management scheme which has, or has had, any responsibility for any aspect of the operator’s spaceflight activities.