# 2021 No. 792

## The Space Industry Regulations 2021

## PART 8

Safety of operator's spaceflight activities

## CHAPTER 5

Additional safety requirements for launch vehicles with human occupants

#### SECTION 3

### The launch vehicle

#### Additional conditions if the launch vehicle has a human occupant

**109.**—(1) The systems referred to in regulation 91(3)(d) are that, if the launch vehicle has a human occupant, that vehicle must have—

- (a) a system capable of providing on board power and atmospheric conditions for the inhabited areas of the launch vehicle which are adequate to sustain life and consciousness of a human occupant or equipment to provide such conditions to each human occupant,
- (b) an adequate redundant system for supplying oxygen to a human occupant and preventing depressurisation, or the harmful effects of depressurisation, in inhabited areas of the launch vehicle,
- (c) a system capable of warning the pilot in command or the remote pilot of any significant accumulation of ice on the exterior of the launch vehicle,
- (d) a system which enables the spaceflight operator or any crew to detect smoke in the inhabited areas of the launch vehicle and to assist in preventing or suppressing a fire in that area,
- (e) a system capable of displaying any information necessary to any flight crew to ensure that the flight is carried out safely, and
- (f) a system capable of restraining any member of the crew or any spaceflight participant in their seat when necessary to ensure that the flight is carried out safely.

(2) Any system referred to in paragraph (1) includes any hardware or software relating to that system and must—

- (a) be suited to the operator's spaceflight activities, and
- (b) be capable of functioning during those activities.
- (3) If a launch vehicle has a human occupant, that vehicle must have a flight recorder.

(4) In this regulation "a redundant system" means a system which provides the essential services of a primary system in the event of the failure of such a primary system.