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AERIAL WORK AND SPECIALISED OPERATIONS

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Aerial work and specialised operations

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GENERAL

Jersey Aviation Circulars are issued to provide advice, guidance and information on standards, practices and procedures necessary to support Jersey Aviation Requirements. They are not in themselves law but may amplify a provision of the Air Navigation (Jersey) Law 2014 or provide practical guidance on meeting a requirement contained in the Jersey Aviation Requirements.

PURPOSE

This Circular provides guidance on aerial work and specialised operations, including the need for risk assessments for the operations to be undertaken.

RELATED REQUIREMENTS

This Circular relates to JAR Part 91. See also JAC 91-2 Commercial Air Transport and Private Operations.

CHANGE INFORMATION

First issue.

ENQUIRIES

Enquiries regarding the content of this Circular should be addressed to the Director of Civil Aviation at www.cidca.aero

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1 Introduction

- 1.1 The term 'aerial work' is defined in the Air Navigation (Jersey) Law 2014 as meaning any purpose (other than commercial air transport) for which an aircraft is flown if valuable consideration is given or promised in respect of the flight or the purpose of the flight. This can include some quite simple activities such as taking a photograph or conducting a flight test, as well as specialised services such as aerial application of chemicals, construction etc.
- 1.2 The requirements for aerial work are set out in JAR Part 91. These requirements apply to all aerial work conducted within Jersey, including the territorial seas, and to all aerial work carried out using Jersey-registered aircraft wherever they fly. If a Jersey-registered aircraft is operating outside the territory it must also be flown in compliance with the laws and regulations of the country or airspace where it is flying. If there are differences between these rules, then the more stringent requirement must be applied.

2 The requirements explained

- 2.1 The persons who may be carried in the aircraft on an aerial work flight and positioning flights immediately before and after the aerial work activity include, in addition to members of the crew, no more than 6 persons indispensable to the aerial work activity¹. Additional restrictions are applied regarding who may be carried during the conduct of specialised operations, for example when an article, person or animal is suspended from a helicopter. Where valuable consideration is involved and persons other than those indispensable to the aerial work activity are to be carried, then the rules applicable to commercial air transport apply and an air operator's certificate is required. (See also the discussion of the term 'Task specialist' in the following section.)
- 2.2 Before commencing any aerial work operation, the operator of the aircraft is required to carry out a risk assessment and develop appropriate standard operating procedures (SOPs) to provide guidance to operating staff to ensure safe means of carrying out the aerial work task.
- Note 1: 'Operating staff' includes all those individuals involved in the conduct and control of an operation, including pilots, whether paid or unpaid, full-time or part-time.
- 2.3 The risk assessment is required to have regard to the type of aerial work activity and the operating environment. Guidance on risk assessment is provided below.
- 2.4 The operator must make the SOPs available to every employee or person who is engaged or may engage in aerial work operations conducted by him.
- 2.5 The operator must ensure that the risk assessment is reviewed and guidance to operating staff kept up to date, taking into account any changes affecting the operation.

Note 2: When conducting the risk assessment and developing SOPs, operators of complex general aviation or commercial air transport aircraft should

¹ This limitation on the number of persons to be carried is not applicable to aerial work parachuting flights.

utilise their safety management systems, and ensure that the standard operating procedures requirements in Subpart B of the applicable JAR are satisfied; i.e. JAR 125. Guidance on SOPs is included at Appendix A.

3 Task specialists

3.1 The term 'Task specialist' is defined as follows –

Task specialist means a person assigned by the operator or a third party, or acting as an undertaking, who:

- (a) performs tasks on the ground directly associated with a specialised task;
or
- (b) performs specialised tasks on board or from the aircraft.

3.2 From a legal point of view, task specialists are either crew members or passengers. In accordance with the definition of 'Crew', a task specialist who is assigned by the operator to perform specialised tasks on board or from the aircraft is a member of the crew. If not assigned by the operator to perform specialised tasks on board or from the aircraft (for example a ground worker associated with a specialised task), a task specialist is a passenger.

4 Operations for which permission is required

4.1 The permission of the DCA is required before a foreign-registered aircraft is used for aerial photography, aerial survey or any other form of aerial work. In this context a "foreign-registered aircraft" is an aircraft registered in a Contracting State other than the United Kingdom or any of the territories, or in a foreign country.

4.2 In addition to the above, for certain specialised operations the permission of the DCA is required. Such specialised operations include: aerial application for the purposes of agriculture, horticulture, forestry or conservation; helicopter external load operations (HELO); helicopter hoist operations (HHO)²; and dropping of persons (parachuting)³. Operators conducting any of these specialised operations are required to have an operations manual –

- containing such information and instructions as may be necessary to enable employees and persons engaged in the operation to perform their duties;
- that includes SOPs (as previously described); and
- defining the duties and accountabilities of those persons responsible for managing the safe operation of aircraft.

² 'Helicopter hoist operations' refers to a flight the purpose of which is to facilitate the transfer of persons and/or cargo by means of a helicopter hoist. HHO where any person on the hoist is not a crew member must comply with the requirements applicable to commercial air transport operations.

³ Separately from the dropping of persons, the dropping of articles and animals is generally prohibited, therefore an exemption from Air Navigation (Jersey) law 2014 Part 13 Article 99 may be required for such tasks.

- 4.3 The operations manual must be made available to everyone involved in the operation; and they must be trained and equipped as appropriate to the tasks they will perform.
- 4.4 Application for permission for use of foreign-registered aircraft for aerial work and/or for the conduct of specialised operations should be made to the DCA. Copies of any relevant operating certificates/operations specifications or approvals (e.g. issued by the State of Registry of the aircraft) should be included with the application.

5 Risk assessment – what is intended

- 5.1 The risk assessment is required to have regard to the type (i.e. the nature, scope and complexity) of the aerial work activity, and the operating environment (e.g. congested areas, hostile environment, sea states and temperature, weather etc). In conducting the risk assessment and developing the SOPs, the following should also be taken into account –
- Aircraft and equipment
 - Crew composition, training and equipment
(Note: 'Crew' includes task specialists assigned by the operator to perform specialised tasks on board or from the aircraft.)
 - Task specialists who perform tasks on the ground directly associated with a specialised task, their training and equipment
 - Aircraft performance
 - Normal and emergency procedures (operating and ground procedures in each case)
 - Ground equipment
 - Monitoring and record keeping
- 5.2 SOPs should contain limitations such as weather, flying heights/altitudes, speeds, power margins, masses, landing site dimensions.
- 5.3 Before a risk assessment can be conducted it is necessary to first identify the hazards.
- Note 3: A 'hazard' is any situation or condition that has the potential to cause damage or injury. 'Risks' are the potential adverse consequences of a hazard, and are assessed in terms of their severity and likelihood.
- 5.4 It is important to be realistic and ensure that measures are appropriate to the operation, focusing on the main risks. To take a simple example: for the conduct of a licensing proficiency check at a familiar aerodrome, flight crew coordination

in the event of a real aircraft emergency should be considered. In this example an engine failure could be a significant hazard; potentially leading to confusion about which pilot is flying, and a risk of loss of control of the aircraft.

6 Generic and dynamic risk management

- 6.1 Generic risk management is a structured process that prepares for the conduct of an activity in general terms. It is important because it gives consistency to the way the operation is conducted, particularly when a task is to be repeated and/or different people are involved.
- 6.2 Dynamic risk management refers to the ongoing assessments we make during the conduct of an operation. It is a continuous process of identifying hazards, assessing risk, and taking action to eliminate or reduce risk. It should be complementary to the generic risk management process.
- 6.3 The majority of risks should be reasonably foreseeable, therefore SOPs, training, and the assignment of tasks should provide a sound basis for dynamic risk management. An example would be the operational risk management performed during flight, where the crew should normally be making decisions based on a known repertoire, and surprises should be rare.

The following questions may help –

Have all the major hazards related to the intended activity been identified?

Have the risks been assessed in terms of severity and likelihood?

Were the right people involved in doing the risk assessment, i.e. including those who will be conducting the tasks?

What are the criteria for evaluating the level of risk you are willing to accept?

Do your SOPs contain effective and robust mitigations and controls in relation to these risks?

Are the SOPs provided in a way that is clear and meaningful to operating staff?

Do your SOPs make provision for coping with an emergency and the associated risks, i.e. an appropriate emergency response plan (ERP)? (See Appendix B)

Do you have a method in place so it is easy for operating staff to report new or changed hazards and concerns? Does this include a provision so that people can propose preventive and corrective actions?

Appendix A Standard Operating Procedures (SOPs)

The content of this appendix is reproduced from ICAO Document 8168 – PANS-OPS, Volume I, Part III, Section 5, Chapter 1.

1.1 General

Operators shall establish standard operating procedures (SOPs) that provide guidance to flight operations personnel to ensure safe, efficient, logical and predictable means of carrying out flight procedures.

Note.— The Preparation of an Operations Manual (Doc 9376), Chapter 8, 8.6.2, includes general considerations about SOPs. The Human Factors Training Manual (Doc 9683), Part 1, Chapter 2, 2.5.11, includes general considerations about SOPs design.

1.2 SOPs – Objectives

SOPs specify a sequence of tasks and actions to ensure that flight procedures can be carried out according to 1.1. To achieve these objectives, SOPs should unambiguously express:

- a) what the task is;
- b) when the task is to be conducted (time and sequence);
- c) by whom the task is to be conducted;
- d) how the task is to be done (actions);
- e) what the sequence of actions consists of; and
- f) what type of feedback is to be provided as a result of the actions (verbal call-out, instrument indication, switch position, etc.).

1.3 SOPs – Design

1.3.1 To ensure compatibility with specific operational environments and compliance by flight operations personnel, SOPs design should take into consideration:

- a) the nature of the operator's environment and type of operation;
- b) the operational philosophy, including crew coordination;
- c) the training philosophy, including human performance training;
- d) the operator's corporate culture, including the degree of flexibility to be built into SOPs design;
- e) the levels of experience of different user groups, such as flight crews, aircraft maintenance engineers and cabin attendants;
- f) resource conservation policies, such as fuel conservation or wear on power plants and systems;

- g) flight deck automation, including flight deck and systems layout and supporting documentation;
- h) the compatibility between SOPs and operational documentation; and
- i) procedural deviation during abnormal/unforeseen situations.

1.3.2 Flight operations personnel should be involved in the development of SOPs.

1.4 SOPs – Implementation and use

Operators should establish a formal process of feedback from flight operations personnel to ensure standardisation, compliance and evaluation of reasons for non-compliance during SOPs implementation and use.

Appendix B Emergency response planning

An emergency response plan (ERP) should provide the actions to be taken in an emergency. It should reflect the size, nature and complexity of the activities performed by the organisation.

In many cases there will be a need for local liaison with other relevant parties to agree coordination arrangements.

The ERP should ensure:

- a) an orderly and efficient transition from normal to emergency operations;
- b) designation of emergency authority;
- c) assignment of emergency responsibilities;
- d) authorisation by key personnel for actions contained in the plan;
- e) coordination of efforts to resolve the emergency; and
- f) safe continuation of operations or return to normal operations as soon as practicable.

The ERP should set out the responsibilities, roles and actions for the various agencies and personnel involved in dealing with emergencies. It may include checklists and contact details and the ERP should be regularly reviewed and tested. Key personnel should have easy access to the ERP at all times.

Some points to consider

Things that can't happen do happen.

Think – what if ?

- summer/winter/other season
- 2 events at once
- deliberate/hostile acts
- accidents

Classify the emergency(s)

Provide checklists

Are callout lists up to date? (telephone numbers)

Are you reliant on mobile phones?

Avoid e.g. the managing director trying to take control.

Access/gate control (proper procedures so emergency services not delayed by routine security).

When will alarms be silenced? When they are: need for tannoy announcement to explain "to aid communications".

Expectations of neighbours –

- schools
- housing
- other companies

Train to understand the risks – and the risks of escalation.

