

Human external cargo draft

Section XXXXXXXX – Human external cargo

OPS.SPA.001.HEC – Human external cargo (HEC)

(a) A helicopter shall only be operated for the purpose of human external cargo operations, if the operator has been approved by the competent authority.

(b) To obtain such approval by the competent authority, the operator shall:

(1) comply with the applicable requirements contained in OPS.GEN, OPS.CAT, OPS.COM and Part-OR, except for the variations contained in this Section;

(2) establish and maintain in addition to the requirements contained in Part OR.OPS a specific training and checking programme for the crew involved in these operations; and

(3) establish operating procedures specifying:

(i) performance criteria;

(ii) if applicable, the conditions under which offshore human external cargo transfer may be conducted including the relevant limitations on vessel movement and wind speed;

(iii) weather limitations for HEC;

(iv) criteria for determining the minimum size of the HEC site, appropriate to the task;

(v) crew composition and experience requirements.

OPS.SPA.010.HEC Equipment requirements for HEC

(a) The installation of helicopter double cargo hook with independent dual release function, mirrors for visual contact to the HEC and an radio equipment to comply with OPS.SPA.015.HEC and any subsequent modifications and, where applicable, its operation shall have an airworthiness approval appropriate to the intended function.

Ancillary equipment must be designed and tested to the appropriate standard as required by the competent authority.

(b) Maintenance instructions for HEC equipment and systems shall be established by the operator, in liaison with the manufacturer and included in the operator's helicopter maintenance programme as required in Part-M.

OPS.SPA.015.HEC HEC communication

Two-way radio communication shall be established between the flight crew and a trained and from the operator nominated person hanging on the HEC device and, where possible and applicable, communication with ground personnel for day and night onshore and offshore operations.

OPS.SPA.025.HEC Performance requirements for HEC operations

Except for HEC operations at a HEMS Operating Site, HEC operations shall be capable of sustaining a critical power unit failure with the remaining engine(s) at the appropriate power setting, without hazard to the suspended person(s)/cargo, third parties, or property.

Human external cargo draft

OPS.SPA.030.HEC Crew requirements for HEC operations

The minimum crew shall consist of at least one pilot and one HEC technical crew member hanging on the HEC device.

Section XXXXX – Human external cargo

AMC OPS.SPA.001.HEC(b)(3) Human external cargo (HEC)

TRAINING PROGRAMME

1. Flight Crew Members.

1.1 The specific HEC training programme for flight crew members should include the following subjects:

- a. Fitting and use of the equipment;
- b. Preparing the helicopter and equipment for HEC;
- c. Normal and emergency procedures by day and, when required, by night;
- d. Crew co-ordination concept specific to HEC;
- e. Practice of HEC procedures; and
- f. The dangers of static electricity discharge; and
- g. HEC radio communication and defined standardized HEC commands between HEC and flight crew
- h. HEC departures, landings and all procedures related to;

1.2 Flight crew member proficiency checks should include procedures likely to be used at HEC sites with special emphasis on:

- a. Local area meteorology;
- b. HEC flight planning;
- c. HEC radio communication and defined standardized HEC commands between HEC and flight crew
- d. HEC departures, landings and all procedures related to;
- e. A transition to and from the hover at the HEC site;
- f. Normal and simulated emergency HEC procedures; and
- g. Crew co-ordination.

These checks should also be conducted by night if night HEC operations are undertaken by the operator.

2. HEC Technical Crew Member.

The specific HEC training programme for technical crew members who perform assigned duties relating to the operation should include the following additional items:

- a. Duties in the HEC role;
- b. Fitting and use of the equipment;
- c. Operation of equipment;
- d. Preparing specialist equipment for HEC;
- e. Normal and emergency procedures;
- f. Crew co-ordination concepts specific to HEC;
- g. Operation of inter-communications and radio equipment;

Human external cargo draft

- h. Knowledge of emergency equipment;
- i. Techniques for handling HEC passengers;
- j. Effect of the movement of personnel on the centre of gravity and mass during HEC;
- k. Effect of the movement of personnel on performance during normal and emergency flight conditions;
- l. Techniques for guiding pilots over HEC sites;
- m. Awareness of specific dangers relating to the operating environment; and
- n. The dangers of static electricity discharge.
- o. HEC radio communication and defined standardized HEC commands between HEC and flight crew
- p. HEC departures, landings and all procedures related to;

AMC OPS.SPA.001.HEC(b)(4) Human external cargo (HEC) OPERATING PROCEDURES

1. The Helicopter.

During HEC, the helicopter should be capable of sustaining a critical power unit failure with the remaining engine(s) at the appropriate power setting, without hazard to the suspended person(s)/cargo, third parties, or property.

2. The Crew.

2.1 Selection.

The operations manual should contain criteria for the selection of flight crew members for the HEC task, taking previous experience into account.

2.2 Experience.

2.2.1 The experience considered should take into account the geographical characteristics (sea, mountain, big cities with heavy traffic, etc.).

2.2.2 The minimum experience level for a pilot-in-command conducting HEC flights should not be less than:

a. Offshore:

- i. 1 000 hours pilot-in-command of helicopters or 1 000 hours as co-pilot in HEC operations of which 200 hours is as pilot-in-command under supervision; and
- ii. 50 HEC flights conducted offshore, of which 20 flights should be at night if night operations are being conducted.

b. Onshore:

- i. 500 hours pilot-in-command of helicopters or 500 hours as co-pilot in HEC operations of which 100 hours is as pilot-in-command under supervision;
- ii. 100 hours operating experience in helicopters gained in an operational environment similar to the intended operation; and
- iii. 30 HEC flights, of which 10 HEC flights should be at night if night operations are being conducted.

Human external cargo draft

- c. Successful completion of training in accordance with the procedures contained in the operations manual and relevant experience in the role and environment under which HEC is conducted.

2.3 Recency. All pilots and technical crew members conducting HEC should, in addition to the recency requirements in Part OR.OPS, have completed in one year periode:

- a. When operating by day: Any combination of 6 day or night HEC flights, each of which should include a transition to and from the hover.
- b. When operating by night: 6 night HEC flights, each of which should include a transition to and from the hover.

2.4 Crew Composition

2.4.1 The minimum crew for day or night operations should be as stated in the operations manual and will be dependent on the type of helicopter, the weather conditions, the type of task, and, in addition for offshore operations, the HEC site environment, the sea state and the movement of the vessel.

2.4.2 A crew of two pilots should be used during offshore operation when:

- a. The weather conditions are below Visual Flight Rules (VFR) minima at the offshore vessel or structure.
- b. There are adverse weather conditions at the HEC site (i.e. turbulence, vessel movement, visibility).
- c. The type of helicopter requires a second pilot to be carried because of:
 - i. cockpit visibility;
 - ii. handling characteristics; or
 - iii lack of automatic flight control systems.

3. The Manual

When required in the interest of safety, relevant extracts from the operations manual should be made available to the organisation for which the HEC is being provided.

4. Passenger briefing

Passenger briefing prior to any HEC flight, or series of flights, except for HEMS operation, HEC passengers should be briefed and made aware of the dangers of static electricity discharge and other HEC considerations.

AMC OPS.SPA.010.HEC(a) Equipment requirements for HEC

AIRWORTHINESS APPROVAL FOR HUMAN EXTERNAL CARGO

1. Helicopter double cargo hook with independend dual release function and mirrors installations which have been certificated according to any of the following standards should be considered to satisfy the airworthiness criteria for Human External Cargo (HEC) operations:

Human external cargo draft

- a. CS 27 or CS 29;
- b. JAR 27 Amendment 2 or JAR 29 Amendment 2 or later;
- c. FAR 27 Amendment 36 or later - including compliance with CS 27;
- d. FAR 29 Amendment 43 or later.

2. Helicopter double cargo hook with independent dual release function and mirrors installations which have been certificated prior to the issuance of the airworthiness criteria for HEC as defined in paragraph 1 may be considered as eligible for HEC operations provided that following a risk assessment either:

- a. The service history of the double cargo hook with independent dual release function installation is found satisfactory to the competent authority; or

- b. For hoist installations with an unsatisfactory service history, additional substantiation to allow acceptance by the competent authority should be provided by the Installation Certificate Holder (TC or STC) on the basis of the following requirements:

- i. The double cargo hook with independent dual release function installation should withstand a force equal to a limit static load factor of 3.5, or some lower load factor, not less than 2.5, demonstrated to be the maximum load factor expected during hoist operations, multiplied by the maximum authorised external load.

- ii. The reliability of the primary and back-up release systems at aircraft level should be established and Failure Mode and Effect Analysis at equipment level should be available. The assessment of the design of the primary and back-up quick release systems should consider any failure that could be induced by a failure mode of any other electrical or mechanical rotorcraft system.

- iii. The operations or flight manual contains one-engine-inoperative hover performance data and procedures for the weights, altitudes, and temperatures throughout the flight envelope for which HEC operations are accepted.

- iv. Information concerning the inspection intervals and retirement life of the HEC rope should be provided in the instructions for continued airworthiness.

- v. Any airworthiness issue reported from incidents or accidents and not addressed by i., ii., iii. and iv. should be addressed.