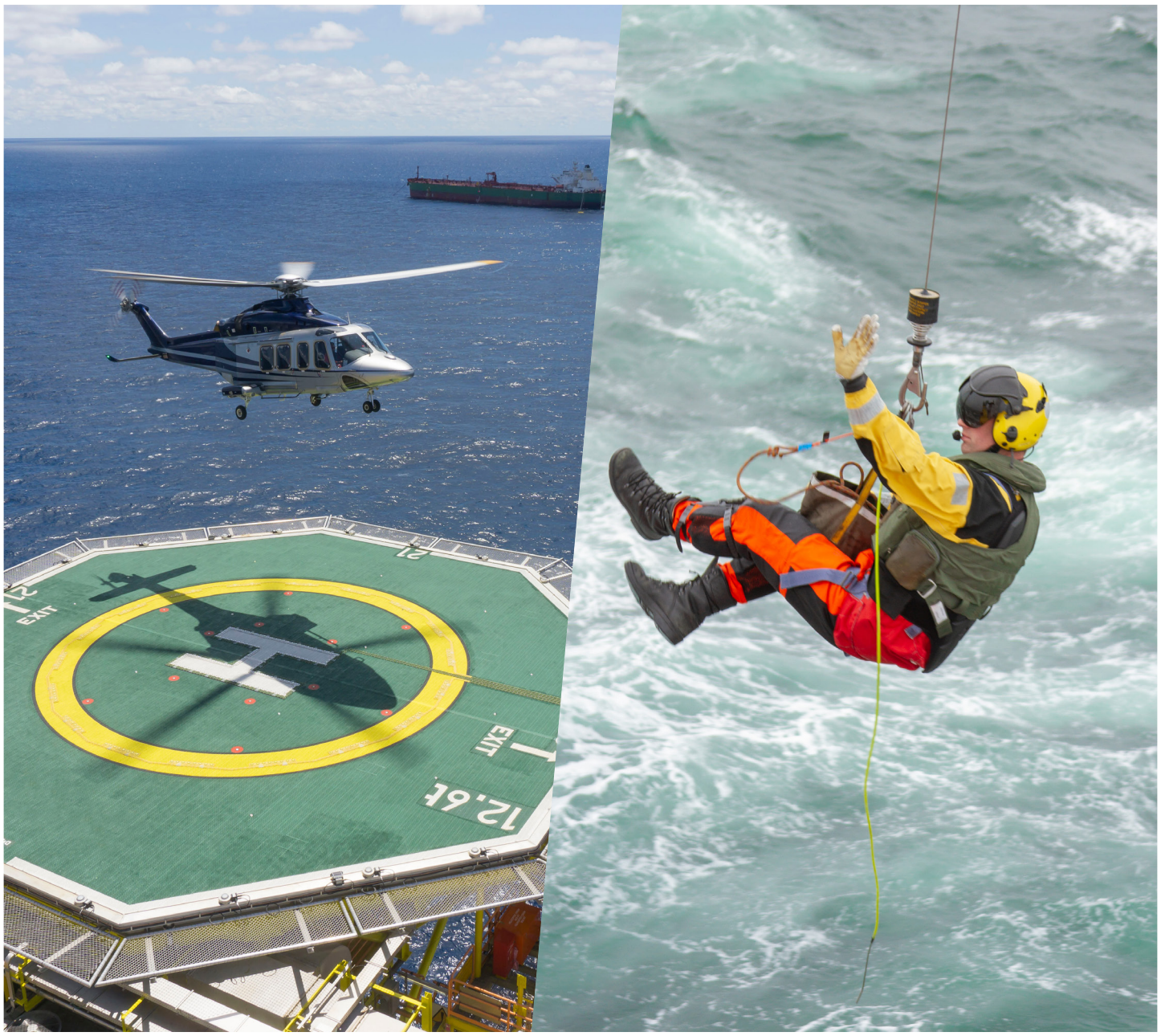
International Association of Oil & Gas Producers

REPORT 699 | MAY 2024

Offshore emergency response services



Acknowledgements

This Report was produced by the IOGP Safety Committee with assistance and advice from experts from commercial emergency response services operators.

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About

IOGP Report 699 – *Offshore emergency response services* provides recommended practices that will assist in the safe, effective, and efficient management of offshore Emergency Response Services, including medical evacuation flights and response and rescue services using helicopters supplied by commercial air operators. This Report forms part of IOGP's Oil and Gas Aviation Recommended Practices (OGARP).

Feedback

IOGP welcomes feedback on our reports: publications@iogp.org

REPORT
699

MAY
2024

Offshore emergency response services

Revision history

VERSION	DATE	AMENDMENTS
1.0	May 2024	First release

Contents

Introduction

This Report forms part of IOGP's Oil and Gas Aviation Recommended Practices (OGARP).

This Report outlines the operational recommendations for aircraft operators when contracting helicopters for offshore Emergency Response Services (ERS).

Unless otherwise specified, the recommendations within Report 690 are applicable to ERS, and augmented with the recommendations outlined in this Report, 699.

Contracts requiring fixed wing (FW) or rotary wing (RW) aircraft tasking that includes jungle, mountain, or cold weather operations capability are not included, and require Company/advisor assessment on a contractual basis.

The recommended practices contained herein are specific to the unique operational tasks and risks associated with RW Offshore ERS contracted operations, inclusive of the following:

- **Air Ambulance including medevac (operated as Commercial Air Transport (CAT))**

  Note: Medical evacuation, often shortened to medevac, is the timely and efficient movement, and possible en route care, provided by medical personnel to patients being evacuated to receiving medical facilities, using CAT aircraft.

The following Sections of 699 are applicable to medevac/air ambulance flights:

- 699-2 Sections 1, 2, 3, 4, 5 and 6
- 699-4 Section 1 (relevant to ERS)
- 699-5 Section 1 (relevant to ERS)

- **Helicopter Emergency Medical Services (HEMS) (operated as CAT)**

  Note: HEMS operations are higher risk than air ambulance and medevac operations and operate under special approvals from the regulatory authorities. Generally, HEMS is rarely contracted by oil and gas companies. It is included here for clarity but is outside the scope of this document.

- **Search only and deployment of air droppable life raft operations (operated as CAT)**

The following Sections of 699 are applicable to operations involving searches and dropping life rafts:

- 699-2 Sections 1, 3, 4, 5 and 7
- 699-4 Section 1 (relevant to operations involving searches and dropping life rafts)
- 699-5 Section 1 (relevant to operations involving searches and dropping life rafts)

- **Contracted Response and Rescue Services (RRS)**

All sections of 699 are applicable to RRS.

Note: This Report addresses either commercial "all-weather" RRS or "reduced" RRS. Corresponding aircraft equipment recommendations are provided in Section 699-5.

Urgency and patient risk are underlying considerations for ERS operations. As such, variations to the following sections of Report 690 are to be discussed, agreed, and documented with the Aviation Advisor:

- 690-2 Section 9 Helicopter performance class (only for RRS operations)
- 690-2 Section 18 Flight crew fatigue – flight duty times and rest periods
- 690-2 Section 21 Aviation weather – IFR/VFR (only for RRS operations)
- 690-2 Section 27 Fuel planning
- 690-2 Section 28 Offshore alternates – planning
- 690-2 Section 29 Offshore alternates – execution
- 690-3 Section 2 Offshore passenger holding areas
- 690-3 Section 4 Passenger and baggage weights
- 690-3 Section 5 Passenger handling
- 690-3 Section 6 Passenger – personal protective equipment
- 690-3 Section 7 Passenger briefing
- 690-3 Section 11 Passenger training – HUET
- 690-3 Section 12 Passenger training – CA-EBS
- 690-3 Section 13 Helideck management – general
- 690-3 Section 16 Helideck – staff training
- 690-3 Section 17 Helideck – passenger control

Definitions

Deck	The structural element that forms the permanent covering of a compartment or hull on a vessel or the external assembly of an offshore platform.
Deck hoist	HEC operations involving the deployment of personnel by hoist to a Deck (as defined above)
ERS	Emergency Response Services (ERS) encompassing medevac, air ambulance, HEMS and Response and Rescue Services including visual airborne search and dropping life rafts.
HEC	Human external cargo
HEMS	A team of Critical care and Emergency medical doctors and/or paramedics who are transported by a helicopter, to land in the vicinity of a critically ill patient to save a life and then transport to an appropriate medical facility for further treatment.
Hover reference	External visual references sufficient to safely control and manoeuvre the helicopter in a hover
Hoist operator	A crewmember specifically trained to operate a hoist system
Medically incapacitated passenger	A person who is unable to self-egress and/or unable to wear the required survival equipment, including life jackets, survival suits, and/or unable to use emergency breathing systems (EBSs), as determined by a medical professional/escort.
Minimum departure standard (MDS)	An aviation operator's controlled document, listing aircraft items which the regulator has not required to be serviceable/ operable (within OEM specifications), and the maximum period of time until rectifications will be accomplished. The maximum time for rectification is risk-based, with the more important items having a shorter allowable rectification period than less important items.
MCO	Mass Casualty Operations. Those involving large numbers of persons in distress, such that the capabilities normally available are inadequate.
Night Vision Goggles (NVG)	A binocular appliance that amplifies ambient light and is worn by crew. NVGs enhance the crew's ability to maintain visual reference to the surface at night.

Night Vision Imaging System (NVIS)	The integration of all (NVIS) elements required to successfully and safely operate an aircraft with night vision goggles. The system includes at a minimum NVGs, NVIS lighting, other aircraft components, training, and continuing airworthiness.
Reduced RRS	Where the contracted RRS service will be in daylight and Visual Meteorological Conditions (VMC) only.
Response and rescue services (RRS)	Commercial contracted RRS which can include hoist operations conducted to locate and be capable of independently rescuing persons who are lost, injured, and/or exposed to some degree of danger or harm offshore.
RRS passenger	A person other than RRS crew carried during a RRS flight whose function is relevant to the task/flight, who is one of the following: – medical personnel; – ill or injured persons and other persons directly involved; – survivors; – company emergency response personnel; or – other persons as approved by the aircraft Operator and Company.
Rescue specialist	A crew member specifically trained to perform hoist rescue duties.
Place of safety	A place of safety (as referred to in the Annex to the 1979 SAR Convention, paragraph 1.3.2) is a place where the survivors' safety of life is no longer threatened and where their basic human needs (such as food, shelter and medical needs) can be met. Further, it is a place from which transportation arrangements can be made for the survivors' next or final destination.
Search and rescue (SAR)	Government managed operations conducted to locate and rescue persons who are lost, injured, and/or exposed to some degree of danger or harm.
Thermal imaging system	Creates imaging using heat signatures. These systems are typically mounted on aircraft and are used for a variety of applications, including environmental monitoring, search and rescue operations and surveillance.
Wet hoist	HEC operations involving the deployment of personnel directly to/from the water as well as from single or multi seat life rafts.

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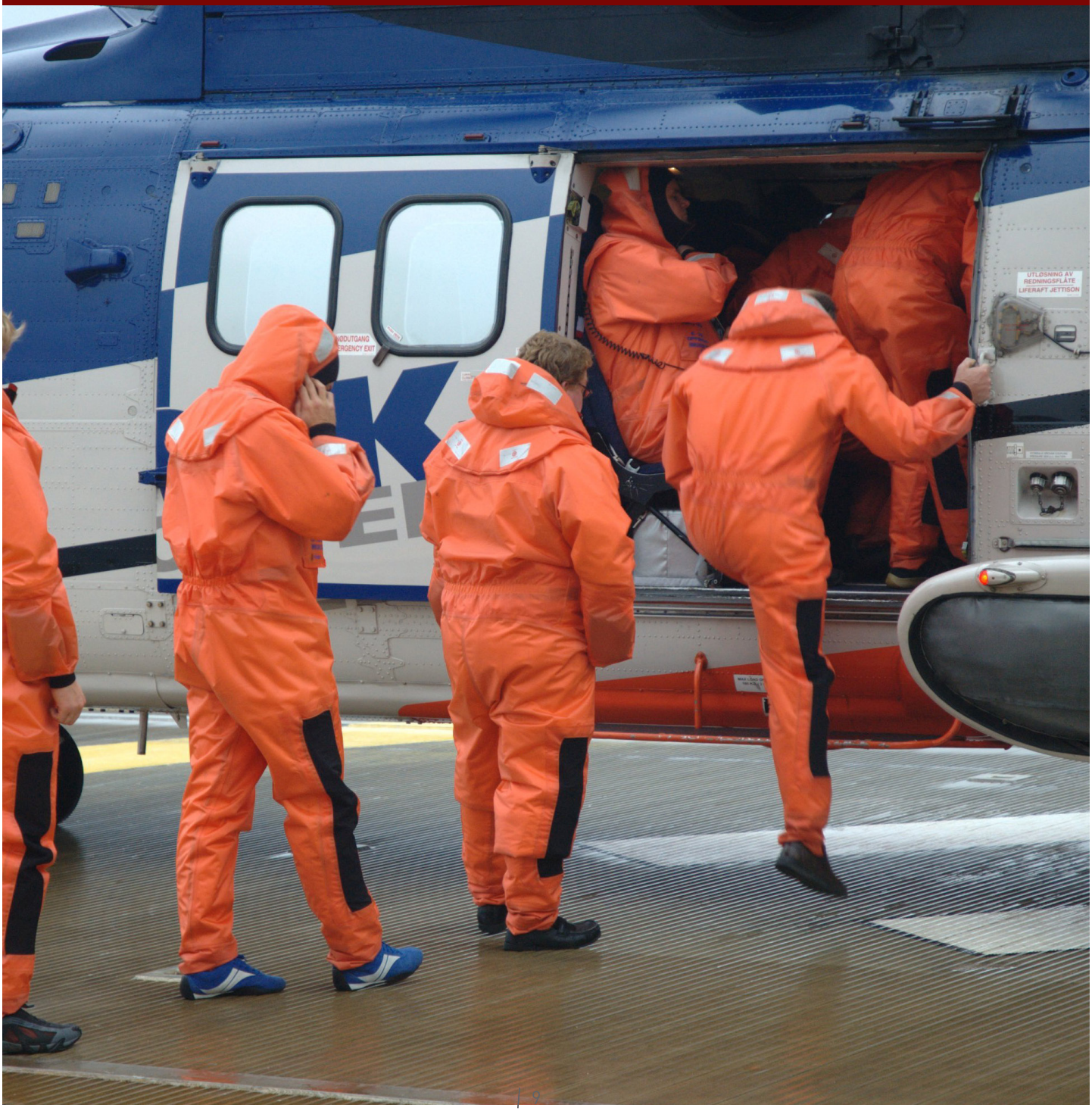
IOGP REPORT 699-1

Safety Management System

Recommended practices for Safety Management Systems for offshore emergency response services are as found in IOGP Report 690 - *Offshore helicopter recommended practices*



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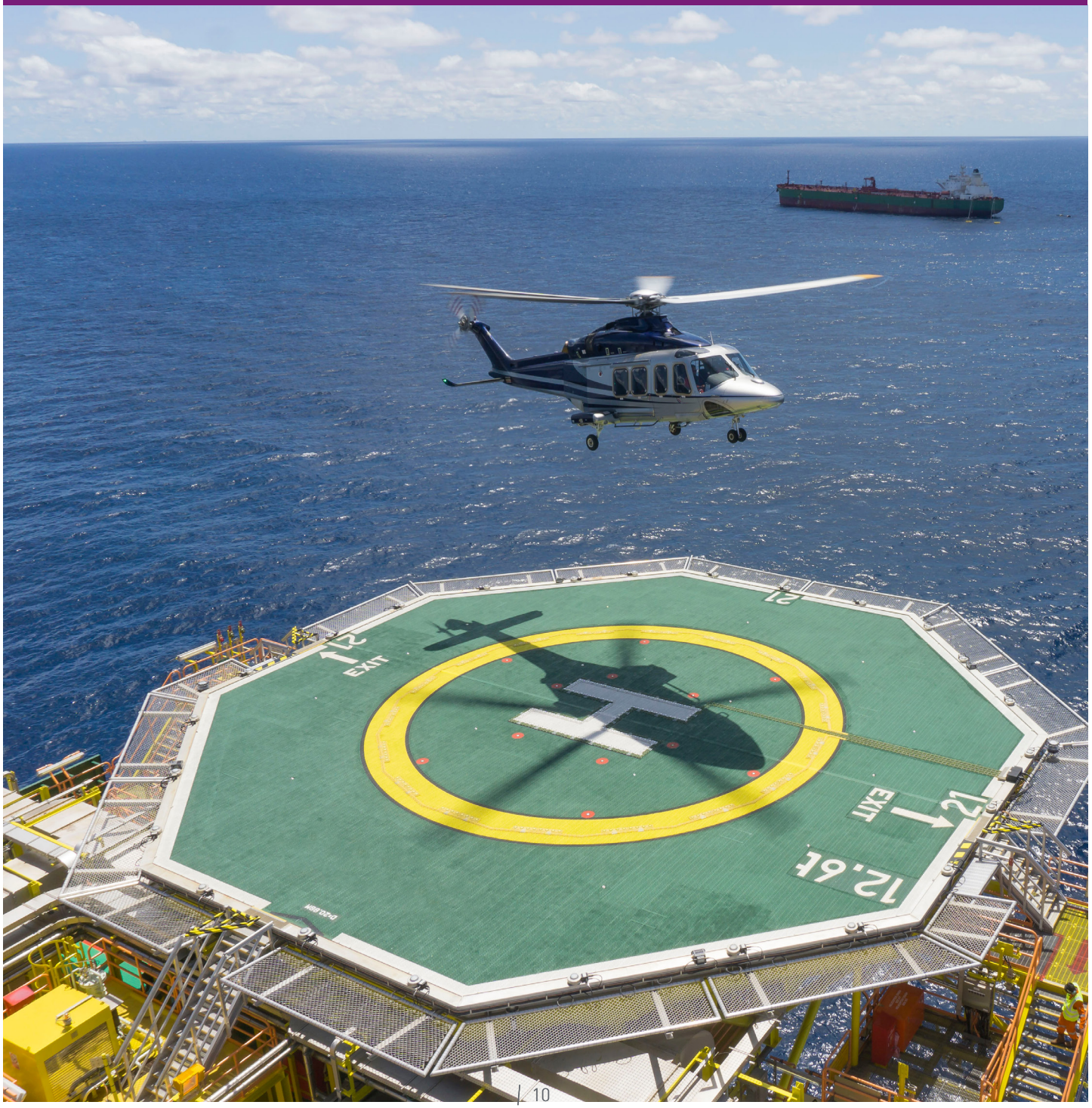
IOGP REPORT 699-2

Aircraft Operations

The Sections of IOGP Report 699-2 apply in addition to the content of IOGP Report 690-2.



1. Documented procedures – general

1A. Purpose

Ensuring safe operations with an effective system of documented operational procedures

1B. Expectations

Where any form of ERS is tasked, the scope of the mission, planning requirements and call out processes are clearly defined

1C. Processes and practices

1C.1 The scope of any ERS mission, planning requirements and call out process is clearly documented.

1C.2 The aircraft operator is approved by the relevant National Aviation Authority (NAA) to conduct either All Weather or Reduced RRS operations, including hoisting, where such approvals are issued in the country of operation.

1C.3 ERS operations are documented and, as a minimum, include the following sections:

- 1C.3.1 Crew experience and qualifications
- 1C.3.2 Duties and responsibilities of all crew (Pilots, Hoist Operators, Rescue Specialists, etc)
- 1C.3.3 Training and recency requirements for all crew
- 1C.3.4 Authorization, availability and call out procedures
- 1C.3.5 Weather minima and limitations for ERS
  - 1C.3.5.1 The aircraft operator is to agree with the NAA and document the operating minima appropriate to RRS operational and training flights
- 1C.3.6 ERS operations; Normal and Emergency procedures
- 1C.3.7 RRS hoisting and emergency procedures (if applicable to the RRS)
- 1C.3.8 Performance criteria – All Engines Operating (AEO) and One Engine Inoperative (OEI). See 699-2, Section 11, Helicopter performance
- 1C.3.9 Additional equipment required for ERS according to the environment and operation
- 1C.3.10 Area briefing and route information
- 1C.3.11 A process where any temporary degradation of an "all-weather" RRS due to unserviceable rescue related equipment that reduces the capability of the asset, controlled by a Minimum Departure Standard (MDS).
- 1C.3.11.1 A process to report and track any temporary degradation of either all-weather or reduced RRS due to crew shortfalls (e.g., competency based or lack of crew)

Guidance documents

- ICAO Annex 6
- UK CAP 999 UK Helicopter Search and Rescue (SAR) – National Approval Guidance
- International Aeronautical and Maritime Search and Rescue Manual (IAMSAR)

2. Documented procedures – medevac/air ambulance

2A. Purpose:

Ensuring that the risks associated with medevac/air ambulance flights are minimized

2B. Expectation:

Strict protocols are in place for the authorization and conduct of medevac flights

2C. Processes and Practices

2C.1 Companies, in consultation with the air operator, develop documented medevac/emergency procedures that consider the risk to crew, other occupants and the aircraft. These procedures are based on the severity of the medical/psychological condition, and number of personnel involved. The procedures include:

- 2C.1.1 The responsibility for the authorization of a medevac flight is set at Company/Air Operator senior management level.
- 2C.1.2 The final authority on whether a medevac flight can be safely flown rests with the pilot-in-command.
- 2C.1.3 Patient emergency egress procedures (see 10C.5).
- 2C.1.4 A requirement for the aircraft operator to be notified in advance if the patient:
  - 2C.1.4.1 Is to be flown using a stretcher.
  - 2C.1.4.2 Has, or is likely to have, a psychological condition requiring in-flight monitoring.
  - 2C.1.4.3 Has an infectious/communicable disease.
- 2C.1.5 Protocols for infection control.

2C.2 In order to mitigate the risks of induced aircrew pressure, inadequate preparation of medical professional and equipment, etc., aircraft operators develop and use a mission risk assessment form for operations in their specific area, which are to be completed by flight crews before the execution of each medevac flight.

2C.3 A dedicated medevac night flight policy is established in all circumstances when night flights can be requested in response to medical emergencies.

- 2C.3.1 In recognition of their higher risk, night offshore emergency flights are only requested in genuinely life-threatening situations where the risk of waiting and commencing the offshore approach at first light is considered to outweigh the risk of an emergency night flight.
- 2C.3.2 Where a night/IMC RRS capability is available, consideration is given to using that for night medevac support in line with approved Fatigue Risk Management procedures.

3. Crew composition

3A. Purpose:

Crew coordination, responsibilities and pilot monitoring duties are appropriately defined and conducted in line with TEM and CRM principles

3B. Expectation:

Aircraft are appropriately crewed for the task and environment

3C. Processes and Practices

3C.1 The minimum crew for each individual contracted ERS operation is documented.

- 3C.1.1 For air ambulance/medevac missions, the minimum crew is two pilots and at least one medical professional.
- 3C.1.2 For search only missions, the minimum crew is two pilots.
- 3C.1.3 For "deployment of an air droppable life raft" mission, the minimum crew is two pilots and a trained task specialist (see 7C.4)
- 3C.1.4 For RRS the minimum crew is two pilots, one hoist operator, and one rescue specialist.

Guidance Documents

4. Crew training and competence

4A. Purpose:

Ensuring safety critical personnel are competent to fulfil their duties by having appropriate training, qualifications, knowledge, skills, and experience

4B. Expectation:

Aircraft are appropriately crewed for the task and environment

4C. Processes and Practices

4C.1 The aircraft operator's documented procedures contain criteria for the selection of flight crew, hoist operators, and rescue specialists for the ERS tasking.

4C.2 Flight crew, hoist operators, and rescue specialists have completed a formal and recorded initial training and competence assessment in accordance with the procedures contained in the aircraft operators' documented procedures and relevant to the role they are fulfilling as part of the contracted service.

4C.3 Flight crew, hoist operators and rescue specialists have completed a recorded annual proficiency check in the role(s) they are fulfilling as well as the recurrent training outlined below (See Section 12, Crew recency)

4C.4 If NVIS are used during RRS operations, the training programmes contain relevant NVIS competence development.

4C.5 Training consists of relevant contracted aircraft tasking requirements based on the level of ERS service, e.g., night, vessel, wet hoist, etc.

4C.6 Flight crew who can be tasked for ERS flights participate in initial and annual refresher training elements designed to:

- 4C.6.1 Examine the differences between non-ERS CAT flights and specific contracted ERS flights
- 4C.6.2 Maintain knowledge of medevac/air ambulance equipment used on the aircraft, including stretcher and equipment fit and stowage
- 4C.6.3 Familiarize crew members with likely patient pick up and drop off points, and routes, including:
  - 4C.6.3.1 Onshore hospital helipad sites which the aircraft operator has approved for use by the contracted helicopter type
  - 4C.6.3.2 Differences between offshore helideck and onshore hospital helipad marking systems in the operating area
- 4C.6.4 Familiarize crew members with aeronautical information publications referenced in Operations Manuals and/or local flying instructions (or equivalent).
- 4C.6.5 Maintain knowledge of and communications with company and national medical professionals.
- 4C.6.6 Maintain proficiency in night ERS operations, if contracted.
- 4C.6.7 Maintain competency in risk management with a deteriorating patient.

4C.6.8 Review human factors, CRM with medical professionals, amended TEM, etc. relating to ERS flights.

4C.6.9 Maintain knowledge of aircraft operator procedures for assessing unknown landing sites.

4C.7 The training programs are based on a task analysis ensuring that all required job tasks are trained to the appropriate standard.

4C.7.1 A learning analysis is performed to ensure the most appropriate training media is utilized for a given task.

4C.7.2 Use of flight simulators, physical, electronic and virtual training devices, etc. are utilized where appropriate.

4C.8 ERS crew qualification standards include relevant core competencies and associated behavioural indicators.

4C.9 Training records that demonstrate the evaluation processes and levels of competence achieved are maintained and available.

4C.10 The minimum experience levels required for pilots conducting ERS are:

4C.10.1 Not less than the NAA regulatory requirement for CAT category hoist operations.

4C.10.2 Captains/PIC for RRS have at least 200 hours documented experience in a similar role (e.g. RRS, SAR) and complexity of helicopter to that being contracted and meet the PIC requirements of IOGP Report 690-2.

4C.10.3 Co-pilots/SIC "to have completed at least stage 8" in Table 11-1 of IOGP Report 690-2, Section 11.

4C.10.4 For RRS flights, the rescue specialist holds at least a basic Emergency Medical Technician (EMT), or equivalent, certification approved by the appropriate regulatory agency unless a stand-alone EMT, paramedic, or medical equivalent is on board as additional medical personnel.

4C.11 The flight crew, hoist operators and rescue specialists are employees of the aircraft operator, or of a sub-contractor to the aircraft operator, whether full time or part time.

Guidance Documents

- ESPN-R Hoist Safety Promotion – Hoist Operator Training Guide
- UK CAP 999 UK Helicopter Search and Rescue (SAR) – National Approval Guidance

5. Crew fatigue management – duty times and rest periods

5A. Purpose:

Ensuring crew personnel are alert and fit-for-work

5B. Expectation:

The aircraft operator has established limits for crew duty times

5C. Processes and Practices

5C.1 The requirements of 690-2, Section 18 are applied unless an alternative scheme, proven by service experience or fatigue risk research, is accepted by the Aviation Advisor. An exception process, approved by the NAA, is in place to extend duty periods in response to ongoing emergencies, if applicable.

5C.2 Documented duty time and rest period are also listed for hoist operators, rescue specialists, and task specialists.

Guidance Documents

6. Medevac procedures – general

6A. Purpose

Ensuring the risk associated with medevac flights is minimized

6B. Expectations

Strict protocols are in place for the authorization and conduct of medevac flights

6C. Processes and practices

6C.1 Medevac operations are conducted in accordance with the performance requirements of IOGP Report 690-2, Section 9 – Helicopter performance class.

6C.2 All patients are stabilized[1] prior to boarding the aircraft.

6C.3 The aircraft operator establishes procedures for the cases where the pilot-in-command is able to accept a medically incapacitated passenger not wearing or partially wearing survival equipment, where required. These procedures take account of the following:

- 6C.3.1 The circumstances under which one or more medical professionals are required to assist a medically incapacitated passenger during a medevac flight and the skills and qualifications required.
- 6C.3.2 Helicopter-type specific seat allocation for medically incapacitated passengers to ensure the occupants' optimum ability to egress in an emergency
  - 6C.3.2.1 A passenger seated adjacent to an emergency exit can reach upwards, sideways, and downwards with sufficient strength and mobility to operate the emergency exit mechanisms and open the emergency exit.
- 6C.3.3 Emergency evacuation procedures for the medically incapacitated passenger and medical professionals
- 6C.3.4 The medical professional's assessment is available to the pilot-in-command/commander prior to arrival at the offshore installation.

6C.4 Medevac flights are executed using one of the following scenarios

- 6C.4.1 Normally seated medical patient who is stable and can self-egress and is not suffering from an infectious disease. This patient can be carried on a normal scheduled flight with other passengers and might not be wearing or partially wearing survival equipment (see 10C.3).
- 6C.4.2 Normally seated patient who is stable and can self-egress and is suffering from an infectious disease. This patient can be carried in accordance with the infectious disease protocols.
- 6C.4.3 Normally seated patient who requires the guided support of one or two medical professionals to manage an emergency egress. The aircraft operator is to have a policy to assess in which cases other passengers can be on board.

[1] In this case "stabilized" is a subjective term indicating that a patient is not normally physiologically "stable". However, the patient has a medical condition that requires a higher level of care than is available and the medical professional considers that the patient is unlikely to deteriorate during the transfer to a place of safety which will provide a higher level of care.

6C.4.4 Patient in the stretcher with the guided support of one or two medical professionals, depending on the situation. Only essential passengers are to be carried on these flights.

6C.5 Qualified medical professionals meeting all offshore training requirements, such as HUET, accompany patients in the cabin during any medevac where the patient requires assistance to egress the helicopter in an emergency. Where there is a risk that the patient is likely to need restraining for their own safety or the safety of others, at least two medical professionals are in attendance in the cabin.

6C.5.1 Medical professionals used to support medevac flights undergo initial and recurrent helicopter type safety and egress training on a periodic basis. In addition, they are to be trained on egress assistance of a patient. This training includes stowage of equipment, movement around the cabin in flight, cabin lighting, seating and restraint systems, use of intercom system, assisting in the egress of a patient etc.

6C.6 Where rotors running loading/unloading of a patient on a stretcher is considered to be essential, a risk assessment is to be completed.

6C.6.1 The aircraft operator develops a procedure for rotors running loading/unloading based on the risk assessment and all personnel involved are fully trained in that procedure. Untrained personnel are not used.

6C.6.2 The operation is strictly controlled in accordance with the aircraft operator's procedures.

Guidance Documents

7. Search only and deployment of air droppable life rafts[1]

7A. Purpose

Ensuring the risk associated with search flights and in-flight deployment of rescue equipment, including rafts, are minimized

7B. Expectations

Strict protocols are in place for the authorization and successful conduct of search only flights[2] and the deployment of rescue equipment, including rafts, are minimized

7C. Processes and practices

7C.1 The skill to deploy air droppable life rafts and survival kits safely and accurately is similar to the level of skill required to conduct hoist operations at low level over the sea. Where the aircraft operator is contracted to "search only" and/or conduct air droppable life raft systems flights, the following applies:

- 7C.1.1 Assigned flight crew and task specialist will undergo initial and annual refresher training which includes:
  - 7C.1.1.1 Familiarization and practice of normal and "search only" and/or air droppable life raft flights.
  - 7C.1.1.2 Familiarization with wider national SAR and company emergency response procedures.
- 7C.1.2 The aircraft operator has documented procedures for training, competence checking and operational procedures for search only and air droppable life raft flights.
- 7C.1.3 The operational procedures for search only or air droppable life raft flights are established with the approval of the Company Aviation Advisor.
- 7C.1.4 The aircraft operator has an approved and maintained harness for the aircraft type, suitable for restraining personnel deploying equipment with the cabin door open.
- 7C.1.5 Air droppable life raft deployment operations are only conducted in daylight.

7C.2 As a minimum, the air droppable life raft system consists of:

- 7C.2.1 Life raft approved for helicopter in flight deployment
- 7C.2.2 One knife for cutting the deployment rope, if necessary
- 7C.2.3 Gloves for deployment
- 7C.2.4 Intercom communications between the pilots and task specialist

[1] Also known as Helicopter Emergency Rapid Deployment System (HERDS),

[2] Also referred to as "spotter" flights in the USA

7C.3 Procedures are in place as follows:

7C.3.1 The procedures are compliant with the air droppable life raft OEM instructions and limitations.

7C.3.2 Life rafts are air dropped upwind from the rescue zone, clear of persons in the water.

7C.3.3 The life raft deployment system is only used if the helicopter crew has been trained in the physical deployment of the system over water (see recency requirements in 7C.5)

7C.4 The aircraft operator assigns and trains Task Specialists (TS) for the deployment of an air droppable life raft system.

7C.5 Where air droppable life rafts are used, all assigned flight crew members and task specialists achieve the recency as listed in Table 1

Table 1 – Recency requirements for air droppable life raft deployment

	Flight crew	Task
Transitions to/from hover over the sea every 90 days	3	0
Airborne droppable life raft deployment every 365 days (a training system may be used)	0	1

Guidance documents

Flight Safety Foundation Basic Aviation Risk Standard Offshore Helicopter Operations (FSF BARSOHO)

8. Hoist procedures – general

8A. Purpose:

Ensuring a safe flight path and the safety and security of human external cargo during hoist operations

8B. Expectation:

The aircraft operator has developed appropriate hoist procedures

8C. Processes and Practices

8C.1 Hoist documented procedures (SOP or OM) are used by the RRS crew in the performance of their duties. SOPs include designated crew roles and responsibilities, appropriate use of checklists, automation policy, and crew monitoring procedures, including cross check of critical actions, mode settings, aircraft responses, and deviation calls. The procedures are described concisely, with clear and detailed PF/PM, hoist operator, and rescue specialist task assignments, so that the crew will recognize and act on deviations from standards in a timely manner.

8C.2 Documented procedures include, but are not limited to, those for:

- 8C.2.1 Pre-flight procedures, including:
  - 8C.2.1.1 Hoist system inspection and operational checks
  - 8C.2.1.2 Pre-flight readiness of the cabin interior and role equipment
  - 8C.2.1.3 PPE checks
  - 8C.2.1.4 Pre-flight crew briefing regarding tasking
- 8C.2.2 The use of aircraft automation when positioning the aircraft at the hoist site
- 8C.2.3 The assessment of the rescue environment, and hoist site which make active use of CRM/TEM/ADM techniques to identify and manage flight risk
- 8C.2.4 The use of aircraft automation during hoist operations
- 8C.2.5 The management of OEI events that occur during hoist operations
- 8C.2.6 Preparing the cabin and safely securing personnel prior to opening doors in-flight
- 8C.2.7 The prevention and mitigation of the impact of personnel injury from falls from height, including:
  - 8C.2.7.1 The use of personnel lifting devices
  - 8C.2.7.2 Positive attachment and security of personnel when transitioning from the cabin to the hoist hook, and vice versa
  - 8C.2.7.3 Recommended safe deployment heights when hoisting human external cargo
- 8C.2.8 The effective communication between the flight crew, hoist operator, and rescue specialist during hoist operations, including:
  - 8C.2.8.1 Hand signals.
  - 8C.2.8.2 Two-way radio communications.

8C.2.9 The prevention and/or mitigation of undesirable load conditions developing (e.g., load oscillations, spins, etc.), including:

8C.2.9.1 Emphasis on maintaining adequate hover references with a load or cable deployed.

8C.2.9.2 Guidance regarding tag line/hi-line utilization to stabilize loads in conditions of high sea state and/or high or gusting wind conditions, or when hoisting equipment that might be negatively impacted by rotor wash.

8C.2.10 Hoist failures (e.g., stuck hoist) for single and dual hoist operations as applicable.

8C.2.11 Securing passengers, cabin equipment and hoist system upon completion of hoist operations.

8C.2.12 The use of aircraft automation when departing from the hoist site.

8C.2.13 Dealing with mass casualty incidents and hoisting from multi-seat life rafts.

8C.2.14 If applicable, minimizing the risk for hoisting crew where dangerous animals are likely to be encountered, including, but not restricted to, the selection of training areas, pre-exercise reconnaissance, emergency procedures and additional equipment to be carried.

Guidance Documents

ESPN-R Hoist Safety Promotion – Hoist Operator Training Guide

9. Hoist procedures – wet operations

9A. Purpose:

Ensuring wet hoist operations are conducted in conditions that minimize risk

9B. Expectation:

The aircraft operator has developed appropriate wet hoist procedures

9C. Processes and Practices

9C.1 Procedures are documented which include:

- 9C.1.1 Sea state limits for wet hoist recency or training exercises
- 9C.1.2 Alternate personnel recovery procedures for wet hoist recency or training exercises
- 9C.1.3 If applicable to the contracted operation, hoisting from multiple seat life raft training exercises
- 9C.1.4 Lost visual contact with rescue specialist
- 9C.1.5 Leaving the rescue specialist in the water

9C.2 Appropriate PPE is provided for personnel likely to be deployed into water.

9C.3 When conducting deployment of personnel during wet hoist operations, a safety boat, or alternative means of recovery is available. The aircraft is manoeuvred back to the loiter/ briefing position in between each lift. Positive visual contact is maintained between at least one person in the aircraft and personnel in the water at all times.

9C.4 Where the RRS includes the provision for free dropping a rescue swimmer from the aircraft then appropriate approvals, risk assessment, mitigation measures, training, competence and currencies are documented.

Guidance Documents

10. Hoist operator and rescue specialist physical fitness

10A. Purpose:

Ensuring hoist operators and rescue specialists are fit-for-work

10B. Expectation:

The aircraft operator has established requirements for hoist operator and rescue specialist duty fitness

10C. Processes and Practices

10C.1 RRS operators define physical and medical fitness requirements for hoist operator and rescue specialists, relevant to the tasking required, in compliance with national occupational health laws.

10C.2 The hoist operator and rescue specialist undergo an initial and periodic medical examination or assessment and, if applicable, a re-assessment before undertaking duties.

10C.3 Any medical assessment or re-assessment is to be carried out by a medical practitioner who has sufficiently detailed knowledge of the applicant's medical history as well as a reasonable understanding of their job function.

10C.4 The aircraft operator is to maintain a record of medical fitness requalification dates for each hoist operator and rescue specialist.

10C.5 The aircraft operator has a process to ensure that the hoist operator and rescue specialist are free from any physical or mental illness that might lead to incapacitation or inability to perform crew duties.

Guidance Documents

- ESPN-R Hoist Safety Promotion – Hoist Operator Training Guide
- EASA Air Operations ORO.TC.105 Conditions for assignment to duties
- UK CAP 999 UK Helicopter Search and Rescue (SAR) – National Approval Guidance

11. Helicopter performance

11A. Purpose:

Operations are conducted in conditions that minimize risk during engine failure modes

11B. Expectation:

All operations, hoist training and recency exercises are conducted to minimize aircraft exposure

11C. Processes and Practices

11C.1 All hoist training and recency exercises are detailed in the aircraft operator's documented procedures.

11C.2 Prior to conducting any hoist training or recency operations, a pre-flight performance analysis is conducted to determine the maximum aircraft weight for OEI OGE hover capability with reference to the RFM.

11C.3 Hoist training and recency exercises are conducted at an operating weight and operating conditions (wind, hover height, pressure altitude, sea state, etc.) that provides OEI hover capability, safe OEI flyaway, or at a site that would enable a safe OEI forced landing (i.e., over land, given that a controlled ditching into water is not considered safe) and minimizes risk to personnel external of the aircraft.

11C.4 Due to the operational complexities of RRS hoist operations, and selected aircraft types, OEI hover performance and safe fly away/forced landing capability cannot always be ensured at realistic operational weights and hoist heights. RRS operational flights are conducted to minimize aircraft exposure time and the possibility of injury to personnel on the hoist hook.

11C.5 Unless the NAA approves otherwise, any RRS operation to and from onshore sites or heliport (elevated or ground based) are executed under Performance Class 1 (PC1) or "zero exposure".

11C.5.1 If PC1 is not achievable, the RRS operation is to be completed to the nearest suitable airfield.

Guidance Documents

IOGP 690-2, Section 9

12. Crew recency

12A. Purpose:

Ensuring safety critical personnel are competent to fulfil their duties by having appropriate competence and recent experience

12B. Expectation:

The RRS crew have recent RRS experience

12C. Processes and Practices

12C.1 A documented type and role program for recency and absence of RRS crew is in place.

12C.2 If hoisting operations are required, each flight crew member maintain the recency requirements as PF in Table 2.

Table 2 - Pilot recency requirements

Requirement	Recency
Deck hoist operations previous 90 days	Six hoist operations (see note 1 and 2)
Wet hoist operations previous 90 days	Six hoist operations (see note 1, 2 and 3)
Emergency drills previous 90 days	Two hoist emergency drills (see note 4)
General previous 90 days	– Two search procedures using on-board sensors, e.g., autopilot search patterns, FLIR and thermal imaging searches, and NVGs as appropriate – Two NVIS flights (when NVIS are approved) either in the aircraft or approved full flight simulator (see note 5) – Six overwater approaches to the hover (three manual, three autopilot coupled) (see note 6)

Table notes:

1) Each hoist operation includes an assessment of the rescue environment, positioning the aircraft at the hoist site, at least one deployment and recovery of the hoist hook, and departure from the hoisting position.
2) If an RRS pilot is dual rated, 50% recency to be gained on each type.
3) Wet hoist exercises utilize ballast devices (drums, dummies) or live survivors, as appropriate.
4) Examples include hoist system failures, communication failures, etc.
5) NVIS flight is a night flight in an NVIS approved aircraft or in an NVIS approved full flight simulator, in which the flight crew maintains visual surface reference using NVGs.
6) Manual overwater approaches to the hover are conducted in day VMC only.

12C.3 If hoisting operations are required, hoist operators maintain the recency requirements in Table 3.

Table 3 - Hoist operator recency requirements.

Requirement	Recency
Deck hoist operations previous 90 days	Six hoist operations (see note 1 and 2)
Wet hoist operations previous 90 days	Six hoist operations (see note 1, 3 and 4)
Emergency drills previous 90 days	Two hoist emergency drills (see notes 5 and 6)
General previous 90 days	– Two search procedures using on-board sensors, e.g., thermal imaging searches – Two NVIS flights (when NVIS are used by the hoist operator) either in the aircraft or hoist simulator (see note 7)

Notes:

1) Each hoist operation includes an assessment of the rescue environment, at least one deployment and recovery of the hoist hook, and securing the hoist system and cabin upon completion.
2) Two hoist operations include the recovery of a personnel lifting device using a stabilization system, tag line/hi line or similar.
3) Where survivors face a hydrostatic pressure, cold shock threat or hypothermia threat, lifting/hoisting hypothermic survivors is practiced.
4) Wet hoist exercises utilize ballast devices (drums, dummies) or live survivors as appropriate.
5) Examples include hoist system failures, communication failures, etc.
6) Where a dual hoist be fitted, hoist hook changeovers are practised both day and night (if applicable) every 180 days.
7) NVIS flight is a night flight in the NVIS approved aircraft or in the NVG capable hoist simulator wherein the hoist operator maintains visual surface reference using NVGs.

12C.4 If hoisting operations are required, rescue specialists maintain the recency requirements in Table 3:

Table 4 - Rescue specialist recency requirements.

Requirement	Recency
Deck hoist operations previous 90 days	Six hoist operations (see note 1)
Wet hoist operations previous 90 days	Six hoist operations (see note 1 and 2)
Emergency drills previous 90 days	Two hoist emergency drills (see note 3 and 4)
General previous 90 days	– Two search procedures using on-board sensors e.g. FLIR searches, or NVGs as appropriate; and – Two NVIS flights (when NVIS are used by the rescue specialist) either in the aircraft or hoist simulator.

Notes:

1) Two hoist operations include the recovery of a personnel lifting device using a stabilization system, tag line/hi line or similar.
2) Where survivors face a hydrostatic pressure, cold shock threat or hypothermia threat, lifting/hoisting hypothermic survivors is practiced.
3) Examples include hoist system failures, communication failures, etc.
4) Where a dual hoist be fitted, hoist hook changeovers are to be practiced both day and night (if applicable) every 180 days.

12C.5 If assigned to night duty, 50% of the hoist operations are completed at night (except if and when appropriate, alleviation is gained from the contracting authority during periods where limited hours of darkness in higher latitudes preclude night training. In such circumstances, the Operations Manual is to detail the alternative training to achieve the required recency). Where local operations require more emphasis on night hoisting, the 50% split between day and night is discussed with the Company Aviation Advisor and adjusted appropriately.

12C.6 Hoist operations training is to a mix of representative vessels from the operational area. This to be agreed with theCompany Aviation Advisor. Availability of day and night helidecks and vessels is to be guaranteed by the Company in accordance with IOGP Report 69x-0, clause 9C.8.

12C.7 For tailored RRS solutions where hoisting capability is not required, the aircraft operator establishes recency requirements based on contracted aircraft task requirements, e.g., air deployable life raft support only.

12C.8 Where it has not been possible to maintain recency as detailed above, a proficiency check is carried out before pilots, hoist operators and rescue specialists are authorized to conduct RRS operations.

Guidance Documents

- US Coast Guard Air Operations Manual, COMDTINST M3710.1I.
- UK CAP 999 UK Helicopter Search and Rescue (SAR) – National Approval Guidance
- IOGP Report 69x-0 - *Key elements of aviation management*
- EASA Aircraft Operations, ANNEX V (Part-SPA), subpart H: Helicopter operations with night vision imaging systems

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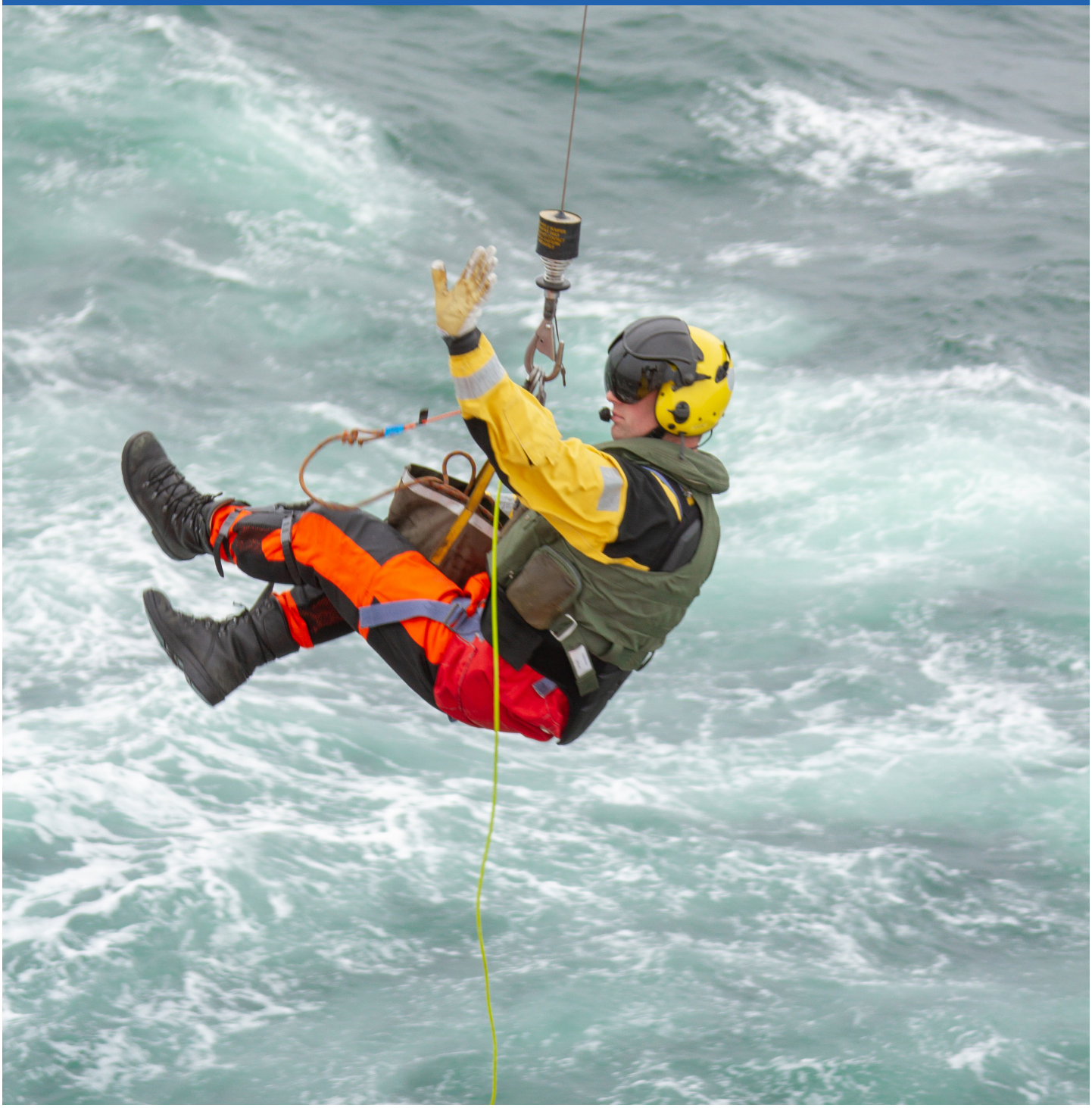
IOGP REPORT 699-3

Support Operations

Recommended practices for Support Operations for offshore emergency response services are as found in IOGP Report 690 - Offshore helicopter recommended practices



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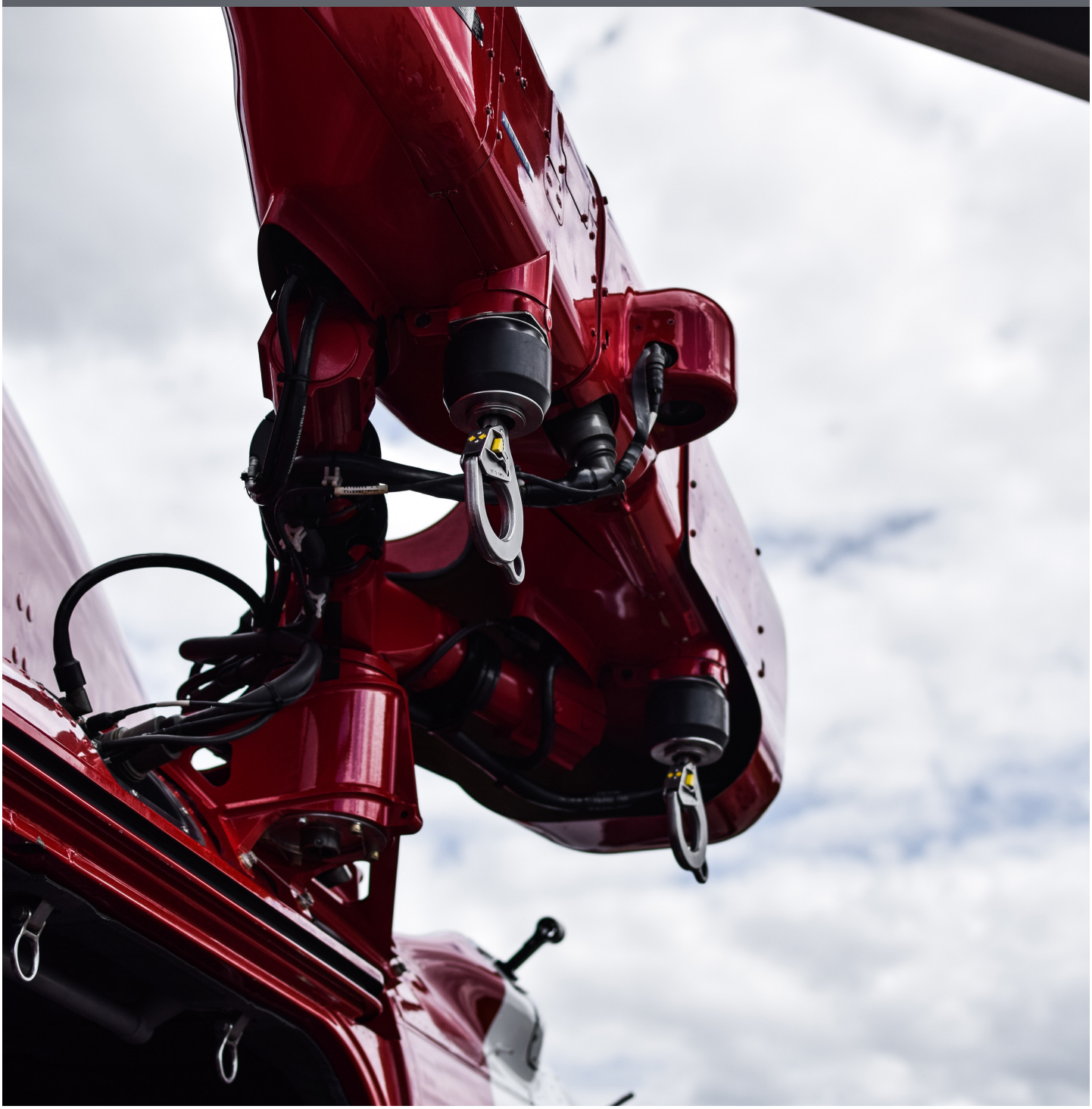
IOGP REPORT 699-4

Engineering

The Sections of IOGP Report 699-4 apply in addition to the content of IOGP Report 690-4.



1. Maintenance of aircraft hoists and associated rescue equipment

1A. Purpose

Ensuring aircraft hoists and associated rescue equipment is fit for purpose, reliable and safe to use

1B. Expectation:

Aircraft hoists and all associated rescue equipment is maintained as prescribed in the operator's approved maintenance programme

1C. Processes and Practices

1C.1 Technical records are maintained for all hoists and lifting devices to record winch cycles and maintenance performed.

1C.2 Time and/or cycle life limits are established for the cable and cable-cutting squibs.

1C.3 All bulletins, notices, and directives or maintenance programmes published by the manufacturer of the airframe and the hoist are incorporated into the overall aircraft maintenance programme as appropriate.

1C.4 All lifting devices (baskets, straps, personnel harnesses, personnel lifting devices, and any ancillary associated lifting equipment) that attach to the hoist cable are included in a maintenance programme defined by the equipment manufacturer.

1C.5 Stretchers and medical equipment are installed and maintained in accordance with OEM or specific STC approvals.

1C.5.1 The fitment and use of stretchers is detailed in the aircraft operator's documented procedures.

1C.6 The OEM instructions on installation, cleaning, checking and storage of the air droppable life raft are embedded in the aircraft operator's maintenance procedures.

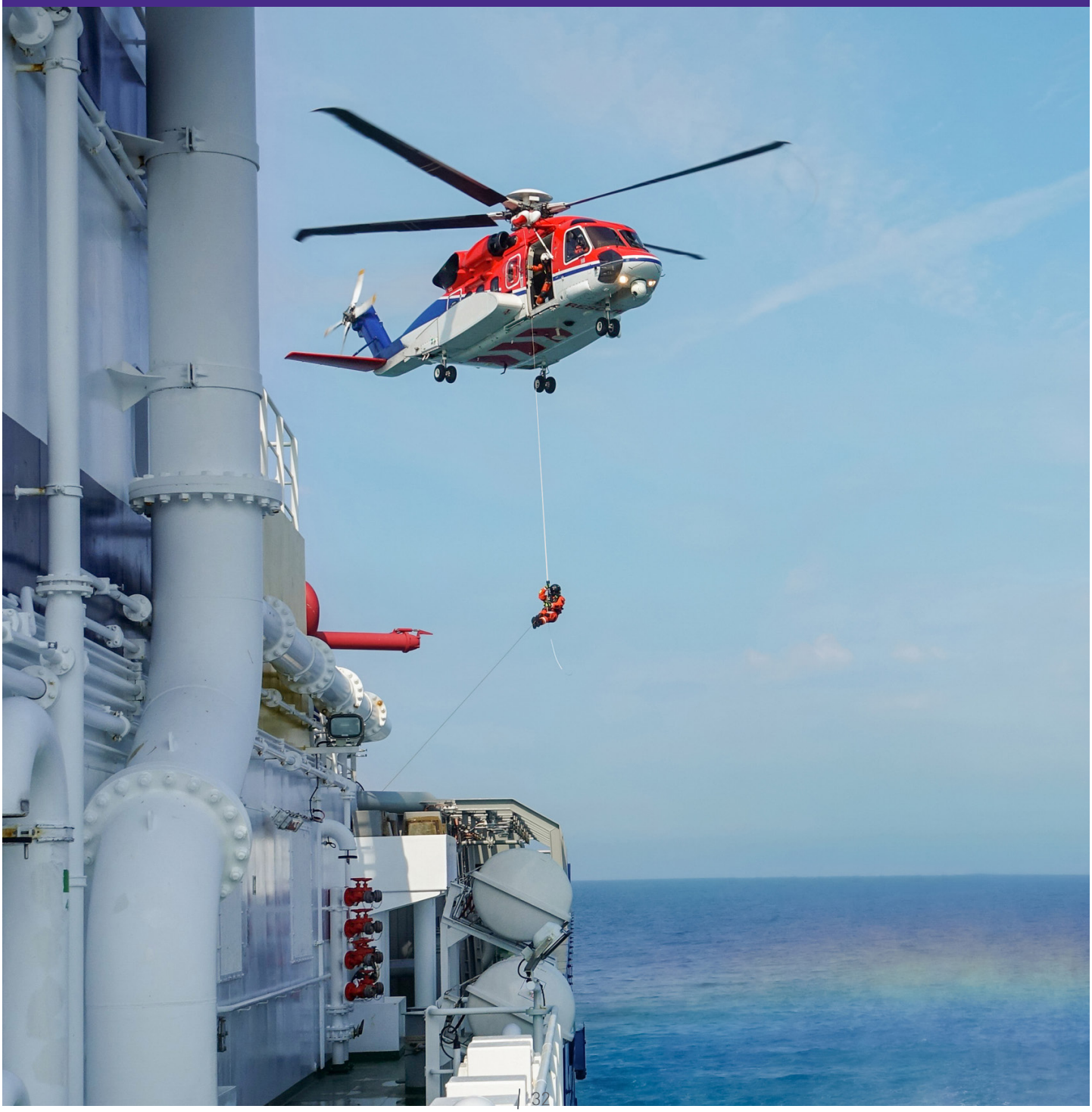
Guidance Documents

International Association of Oil & Gas Producers

IOGP REPORT 699-5

Helicopter and Equipment

The Sections of IOGP Report 699-5 apply in addition to the content of IOGP Report 690-5.



1. Aircraft and crew equipment fit

1A. Purpose

Ensuring the minimum acceptable aircraft and personal equipment based on the aircraft tasking required for offshore RRS hoist operations

1B. Expectation:

The identified equipment fit requirements are deemed as minimum acceptable for RRS hoist operations and are accompanied by an additional equipment needs assessment based upon the unique operational requirements of the applicable contract

1C. Processes and Practices

1C.1 Aircraft contracted for RRS services are certified and approval is maintained in accordance with local regulations.

1C.2 When evaluating aircraft types for ERS, suitable aircraft internal storage solutions for ERS role equipment are designed to avoid floor and/or seat stowage and avoid the blockage or restriction of egress routes.

1C.3 Table 5 outlines the minimum equipment (detailed in the aviation operator's MDS) requirements for RRS hoist operations tasked with all weather RRS operations and reduced RRS operations (day VMC only).

1C.4 Section 690-5, Section 1 is applicable to the contracted ERS equipment.

1C.5 Basic crew PPE includes (but is not limited to) the following:

- 1C.5.1 Flight helmets with ear and eye protection.
- 1C.5.2 Rescue Specialist rope/line handling gloves.
- 1C.5.3 Hoist operator gloves.
- 1C.5.4 Fire resistant/conspicuous flight suits.
- 1C.5.5 Boots with ankle support.
- 1C.5.6 Wetsuits and/or dry suits appropriate for the operating environment.
- 1C.5.7 Certified crew life jacket with CA EBS/HEEDS
- 1C.5.8 Rescue Specialist personal lighting (eg strobe, waterproof torch, chemical lights)
- 1C.5.9 Rescue Specialist personal emergency cutting device(s)
- 1C.5.10 Rescue Specialist body armour and knee pads

Table 5 - Minimum equipment requirement for RRS operations

	All Weather	Reduced
121.5 MHz homing, 406MHz display and AIS display	X	X
Airborne radar with ground mapping capability	X	X
Dual hoist (when available for the aircraft type)	X	X[4]
Autopilot with Auto Hover	X	X
Autopilot with SAR mode[1]	X	
Full or limited ice protection (depending on operating area)	X	
Two-way communications for entire crew at all normal crew positions		
Including waterproof radio communications system for rescue specialist(s)	X	X
Stretcher mounting kit	X	X
Air droppable life raft system[2]	X	
Aircraft cabin sea water protection (e.g., sea tray)	X	X
Steerable search light	X	
Airframe mounted fixed and steerable hover/landing lights	X	
Cabin fall restraint system	X	X
Fall restraint harnesses	X	X
Ambulatory extrication device[3]	X	X
Stretcher	X	X
Water extrication device (e.g., Quick Strop, Rescue Basket)[4]	X	X
Tag line with multiple weak link assembly	X	X
Tri-Lock Steel carabiners for HEC	X	X
Single point of attachment device	X	X
Static discharge cable	X	X
Manual cable cutter	X	X
Emergency swimmer raft (if required, ie when swimmer is deployed)	X	X
NVIS[6]	X	
Thermal imaging systems	X	
FLIR[7]	X	
Hoist cable protection[8]	X	X
Marine band radio	X	X
SATCOM	X	X

Notes:

1) Required if conducting IMC approaches to the water
2) Available for a carriage when tasked to an MCO and when required as a contracted capability.
3) Only strop systems with an anti-slip system, i.e., crotch strap. At least two required, including extended length strop.
4) A single hoist is acceptable for Reduced RRS if a secondary means of rescuing personnel is readily available in the event of hoist failure (rescue craft, additional standby aircraft, etc.) within recognized water survival times for the area of operation.
5) If hoist cable protection is not available due to the aircraft type in use this is to be discussed, agreed and documented with the Company Aviation Advisor.
6) NVIS is a significant enhancement to RRS for night operations. Availability of NVIS in operating area might be limited due to International Traffic in Arms Regulations (ITAR) or national government restrictions.
7) Thermal imaging systems (with associated workstations) are a significant enhancement to RRS but might have an impact on OEI performance. The benefits and usage are likely to differ between specific operating areas. Availability of thermal imaging systems in the operating area might be limited due to ITAR or national government restrictions.

Guidance Documents

- EASA Air operations, Annex V (Part-SPA) Subpart H: Helicopter operations with night vision imaging systems

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IOGP Report 699 – *Offshore emergency response services* provides recommended practices that will assist in the safe, effective, and efficient management of offshore Emergency Response Services, including medical evacuation flights and response and rescue services using helicopters supplied by commercial air operators. This Report forms part of IOGP's Oil and Gas Aviation Recommended Practices (OGARP).

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