

Date: June 2022



ICAO DOC 9261

Offshore Heliport Manual

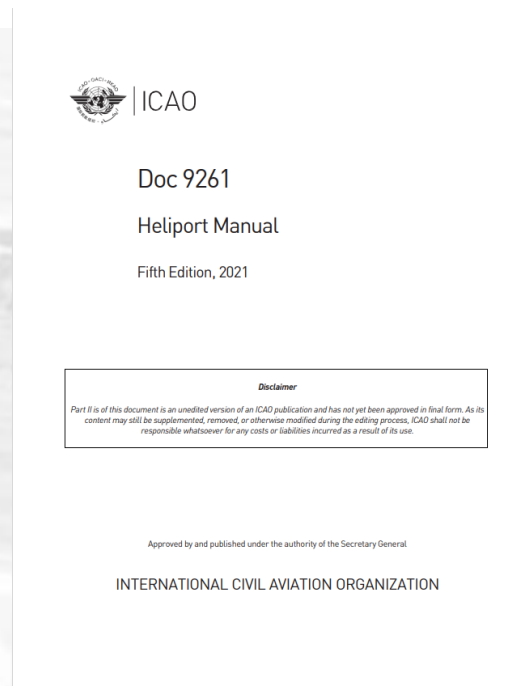
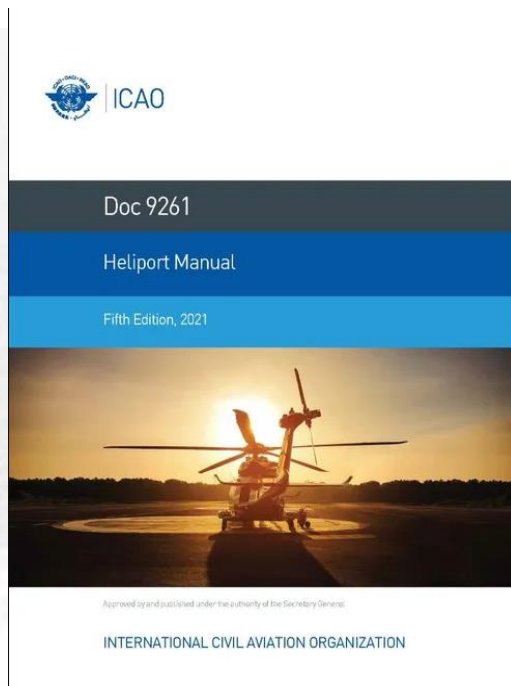
2022 ICAO SAM Heliports Webinar

John Parker – representing ICAO HDWG



HeliOffshore
Safety Through Collaboration

ICAO Doc 9261 Heliport Manual



ICAO Doc 9261 Heliport Manual (cont)

- Offshore heliports Part 1 Heliport Manual (doc. 9261) first published as 4th Edition, January 2020
- 5th Edition was published in October 2021 primarily to add new Part 2 – onshore heliports. There were no significant changes to the offshore part at this time. The HM is also available published in the 5 ICAO official languages including (for Latin America) Spanish.

ICAO Doc 9261 Heliport Manual (Chapter 1 & 2)

The offshore Heliport Manual consists of eight distinct chapters and three appendices.

- **Chapter 1 – General -**

Includes the scope of the document (purpose-built helidecks on installations and vessels and special arrangements such as non-purpose-built shipside arrangements, which are otherwise covered in detail in the International Chamber of Shipping (ICS) Helicopter/Ship Guide 2021) and characteristics of common helicopter types.

- **Chapter 2 – Heliport data -**

Provides a template for authorisation of offshore heliports including the content of a Helideck Directory (HD) – equivalent to the HLL - and a Helideck Information Plate (HIP).

ICAO Doc 9261 Heliport Manual (Chapter 3)

Chapter 3 – Physical characteristics, includes guidance on;

- structural design, general design considerations (turbulence, temperature rise, special considerations for floating facilities and ships etc).
- the minimum standard for a coincidental FATO/TLOF is 1D except that the TLOF may be reduced to no less than 0.83D for CS 27 helicopters below 3175kg. This discriminant is in the process of being removed so that, in future, any helicopter, regardless of MTOM, may take advantage of the sub-1D risk assessment process which is detailed in Appendix 1-A.
- Appendix 1-A provides a simple risk assessment process which can facilitate operations to helidecks and shipboard heliports where the TLOF is less than 1D, providing certain conditions are met. This process is useful where, for example, a new helicopter type is introduced which is slightly longer than the original design helicopter it is replacing e.g. a helideck designed for a S76 (D=16.00) is intended to be operated by replacement AW139 (D=16.63m).
- Helideck surface arrangements include a new Appendix 1-C which provides a drainage capacity check and calculation.

ICAO Doc 9261 Heliport Manual (Chapter 4)

Chapter 4 – Obstacle environment includes guidance on;

1. Description of surfaces for helidecks
2. Description of surfaces for shipboard heliports
3. Temporary combined operations
4. Multiple platform configurations,
5. Obstacle protected surfaces for square or circular helidecks
6. the mapping of obstacles on non-purpose-built shipboard heliports based on the guidance given in the ICS Helicopter/Ship Guide 2021.

ICAO Doc 9261 Heliport Manual (Chapter 5)

Chapter 5 – Visual aids - marking and lighting;

This chapter covers guidance on helideck markings and lighting and includes;

- identification of maximum permissible mass (T value), D value, perimeter, touch down positioning circle, obstacle free sector prohibited marking sector and installation name.

Note - Markings are expressed in both metric and imperial units.

- For helideck lighting it is still permitted to use TLOF lighting solutions that utilise floodlighting, however, a new Appendix 1-B has been developed which provides a specification, in detail, for;
 - helideck perimeter lights,
 - a lit TD/PM circle and
 - a lit Heliport Identification “H” marking

The circle-H lighting system is now widely in use around the world in lieu of floodlighting.

There is also a basic lighting system specified for non-purpose-built shipboard heliports.



ICAO Doc 9261 Heliport Manual (Chapter 6)

Chapter 6 – Helideck rescue and firefighting facilities –

- a new scheme acknowledges the use of several different methods of distribution on both a solid plate and passive fire-retarding surface. These methods of primary media distribution include Fixed Monitor Systems (FMS), Deck Integrated Fire-Fighting Systems (DIFFS), Ring-Main Systems (RMS), DIFFS using compressed air foam solutions.
- A passive fire retarding system may utilise water only in lieu of foam. Foam application rates depend on whether a type B or C foam concentrate is used. Discharge duration where a passive surface is used is reduced from 5 to 3 minutes.
- a special section (6.5) is created for NPAI's (not permanently attended installations) which specifies an automated DIFFS or sea-water DIFFS with passive surface.
- personnel levels may be determined using a task resource analysis tool (an example is included in Part 2 of the Heliport Manual in Appendix A to Chapter 6). PPE standards and training are also specified.
- Provision for Emergency Response Procedures

ICAO Doc 9261 Heliport Manual (Chapter 7 & 8)

Chapter 7 – Winching areas on ships –

- Guidance is provided on location, physical characteristics, obstacle protection
- Marking of a winching area
- Lighting for night hoist operations

Chapter 8 – Miscellaneous items –

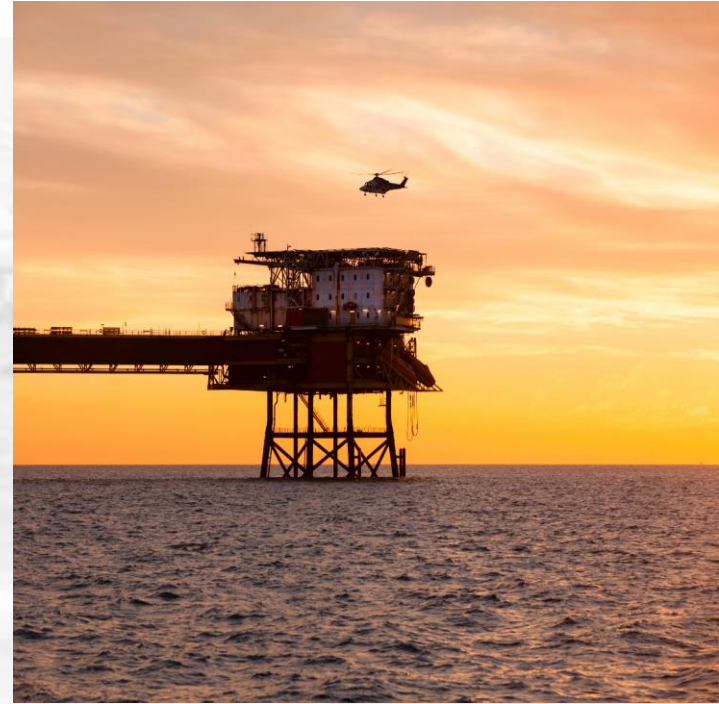
for the first time in the ICAO Heliport Manual provision is made for guidance on;

- Criteria for parking areas and push-in parking areas (IOGP)
 - Meteorological equipment and basic guidance on deck motion, reporting and recording
 - Communications and Navigation equipment
 - Helicopter refuelling operations
 - Bird control on NPAI's



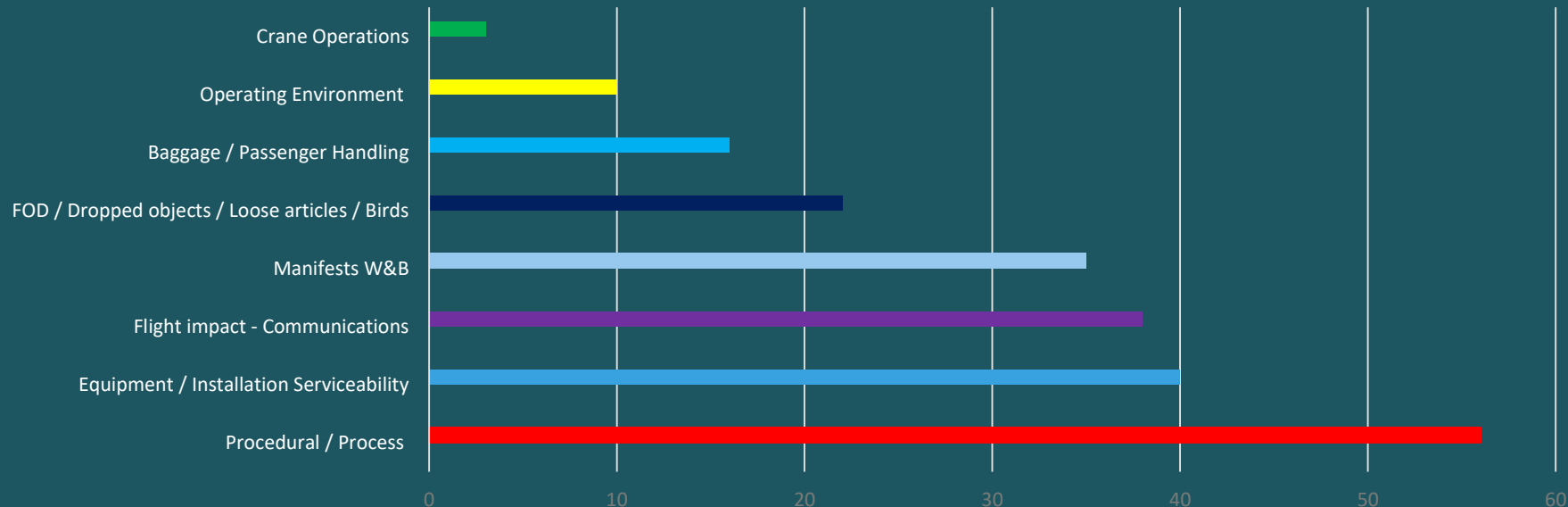
IOGP / HeliOffshore Helideck Work Groups

- Collaborative effort between the Offshore Helicopter Operators and the Offshore Energy Industry linked to ICAO HDWG.
- Focus on;
 - improving safety
 - sharing lessons learned
 - development of processes, people, technology



IOGP Helideck Incidents

Offshore / Helideck Incidents 2016-2020



Helideck Workgroup Safety Opportunities

- 1 Helideck Equipment Serviceability/Maintenance
- 2 Helicopter Fueling/Fuel Control
- 3 Passenger/Baggage Handling
- 4 Communications (Offshore Facility to Helicopter)
- 5 Helideck Team Training and Competence



Helideck Awareness Videos

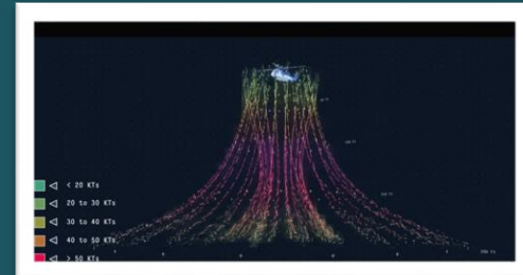
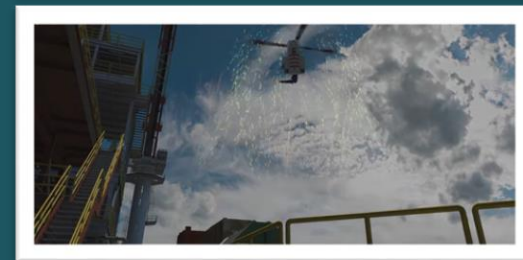
Helideck Management

<https://www.youtube.com/watch?v=U9I9hZmBHUQ>

Helicopter Downdraft Dangers

<https://www.youtube.com/watch?v=09bvuYRKwwc>

These industry videos are for your awareness and available to watch at your leisure from the links provided.



Helideck InfoShare System

The screenshot shows the 'Submit New Helideck InfoShare Report' form in the Helideck InfoShare system. The form is part of a multi-step process: Summary (1), Detail (2), Classify (3), Attachment (4), and Complete (5). The 'Summary' step is currently active. The form fields include:

- Event Title (text input)
- Event Date (calendar icon)
- Event Time (calendar icon)
- Region (dropdown menu)
- Distribution Priority (dropdown menu)
- Aircraft Model (dropdown menu)
- Event Category (dropdown menu)
- Submitted by (dropdown menu)
- Informed (optional) (dropdown menu)
- Informed (optional) (dropdown menu)

A 'Continue' button is located at the bottom right of the form.

- Developed Helideck InfoShare Protocols
- Entered some Relevant Historical Helideck occurrences
- Completed Training of Gate-keepers
- Looking for use of Helideck InfoShare System by HeliOffshore Members and IOGP ASC Members
 - Avoid duplication of effort
 - Assure communication between helideck owner/operator and helicopter operator
 - Focus on learning from occurrences



Helidecks Workgroup

Helideck Equipment Serviceability and Maintenance

Introducing the Master Minimum Helideck Equipment List (MMHEL)



HeliOffshore
Safety Through Collaboration



International
Association
of Oil & Gas
Producers

Opportunity 1: Helideck Equipment Serviceability & Maintenance

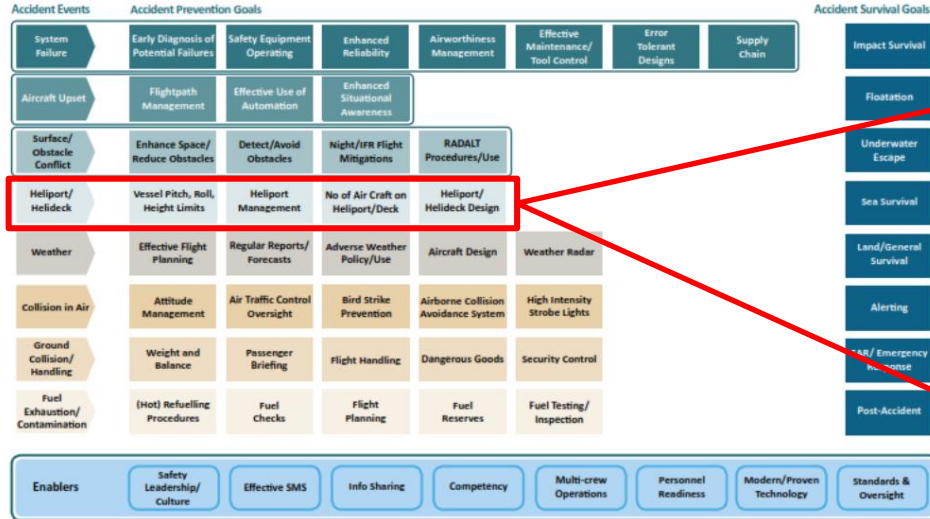
Issue: Analysis of Offshore Helideck Incident Data from the past three years (2016-2020) reveals that reduced Serviceability of Helideck Equipment has either been a causal or contributing factor to Offshore Helideck Occurrences, reducing the effectiveness of identified controls and barriers to prevent incidents and accidents.

Narrative: *“The Helideck Workgroup will develop a [Master Minimum Helideck Equipment List \(MMHEL\)](#). An MMHEL is a categorized list which provides equipment and systems that may (temporarily) be inoperative for the safe operation of a specific type of offshore helideck (Manned or Normally Unmanned Installation (NUI) helideck). Additionally, the MMHEL also includes all equipment and systems that must be operational/serviceable for safe operation of an offshore helideck. HeliOffshore will be able to share this deliverable with its members and helideck owners/operators.”*



Safety Performance Model

Safe Operations



Safety Performance Model



Heliport/
Helideck
Design

Heliport
Management

Helideck designed to regional design guidelines and ICAO heliport manual as a minimum

Helideck Equipment serviceability can be assured through adequate heliport/helideck management

01 Helideck lighting

| System & Sequence Numbers | | Repair Category | Number Installed/ Available | Number Required for Helideck Operations | Remarks or Exceptions | (M) Maintenance Procedures | (O) Operational Procedures | Suggested Notification to Air Operator(s) | NUI |
|--------------------------------------|---|-----------------|-----------------------------|---|--|--|---|---|-----|
| 01-01 Circle & H Lighting | | | | | | | | | |
| 01-01-01 | TD Circle and H lighting – if installed (Daylight) | B | 1 | 0 | Lights may be fully or partly inoperative for daylight operations only. If not installed: Flood lighting arrangement could function as alternative. | - Isolate power to Circle and H lighting system. - Placard switches to show system U/S . | - Issue NOTAM to restrict helideck operations to daylight only. - Helideck Operator to notify their contracted Helicopter operator(s). | Helideck operations restricted to daylight only | ✓ |
| 01-01-02 | TD Circle and H lighting – if installed (Night) | A | 1 | 1 | At least 90% of the lights shall be functional for night operations. If not installed: Flood lighting arrangement could function as alternative. | | | | ✓ |
| 01-02 Flood Lights | | | | | | | | | |
| 01-02-01 | Helideck area floodlights – if installed (Daylight) | B | 1 | 0 | | - Isolate power to flood lights. - Placard switch(es) to show system U/S (if applicable). | | | ✓ |
| 01-02-02 | Helideck area floodlights – if installed (Night) | A | 1 | 1 | If not installed: Circle and H Lighting shall be installed and operational. | | | | ✓ |



HeliOffshore MMHEL

The MMHEL document has been released for guidance to offshore helideck operators and helicopter operators, following the culmination of 24 months work by HeliOffshore's Helideck Working Group.

The document is available through the HeliOffshore web portal link provided below.

<https://www.helioffshore.org/resources/master-minimum-helideck-equipment>



Questions ?

Safe Helideck Operations are No Accident

Thank you

John Parker



HeliOffshore
Safety Through Collaboration