

Offshore helicopter landing areas – Guidance on standards

Annex 1 – CAP 437 6th edition comparison table

CAP 437 5th Edition requirement / reference	C'AP 437 6th Edition requirement / reference	More demanding MD Less demanding LD	Applicability to new build installations / vessels	Applicability to existing installations / vessels – including refurbishments
Chapter 3, Section 2 – Helideck Design Considerations (Environmental Effects)Provisional turbulence criterion presented: limit on the standard deviation of the vertical airflow velocity of 2.4 m/s	Chapter 3, Section 2 – Helideck Design Considerations (Environmental Effects)Final turbulence criterion presented: limit on the standard deviation of the vertical airflow velocity of 1.75 m/s	MD – criteria linked to a lower pilot work load rating	All new build helidecks	Combined operations / modifications to existing topsides which could have an effect on environmental conditions.HOMP routine monitoring of pilot. Workload and turbulence 'events'
CAA research into Visualisation of Offshore Gas Turbine Exhaust Plumes is notified (with CAA paper pending)	CAA paper 2007/02 “Visualisation of Offshore Gas Turbine Exhaust Plumes”, work published demonstrating that the visualisation of exhaust plumes is both practical and affordable and should be considered for 'problem' platforms	N/A	Where significant heat sources are present, offshore dutyholders should commission a survey of ambient temperature rise based on a Gaussian dispersion model and supported by wind tunnel tests and/or CFD studies. Where necessary the platform layout should be modified	Consideration should be given to installing a gas turbine exhaust plume visualisation system on 'problem' platforms known to have a gas plume problem.HOMP should be used to establish and continuously monitor the temperature environment around all offshore

			at the design stage to mitigate temperature events at the helideck.	platforms.
Chapter 3, Section 6 – Size and obstacle protected surfaces.210° sector (Para 6.2) and falling gradient (Para 6.6) - obstacle protection surfaces to be considered out to a 1000m from the helideck.	210° sector and falling gradient protection to be accounted for out to a distance from the helideck based on the one-engine inoperative capability of the helicopter type to be used. For Pc1 and Pc2 operations the horizontal extent of this distance will be based upon the one-engine inoperative capability of the helicopter type.	More flexible being dependent on helicopter type and ambient conditions at the time of the operation. Note: 1000m is generally regarded as being conservative for good performing helicopters	Applicable to all new builds	Applicable to all existing installations, permanent multi-platform configurations and temporary combined operations.
Obstacle accountability for the surface of the helideck is not currently prescribed	Para 6.3 objects whose function requires them to be on the surface of the landing area should not exceed 2.5cm. (See also note to section 7.3)	MD (New ICAO requirement for objects on the FATO)	Applicable to all new builds. ICAO stipulates “Applicable to all new builds completed on or after 01 January 2012.”	All existing installations should be re-assessed and any non-compliance removed or mitigated.
Para 6.4 Limited obstacle sector – 1st segment restricted up to 0.05D. 2nd segment restriction on 1:2 slope	Para 6.5 LOS slopes and surfaces – proposal accepted by industry to change the 1st segment slope criteria by limiting the 1st segment obstacle accountability to a flat surface 25 cm with 2nd segment unchanged.	MD requirements require re-assessment of the 1st segment only. The second segment remains unchanged	Applicable to all new builds with immediate effect	It is strongly recommended that every helideck be re-surveyed to ensure that any ‘new’ non-compliance(s) identified are removed, lowered or mitigated. Mitigation will include, but may not be limited to, provision for an ‘offset’ TD/PM, application of PLHS

				marking
Section 9, Para 9.1 Safety Nets may exceed the height of the landing area by up to 0.25m.	Section 9, Para 9.1 safety nets at the outboard edge should not exceed the height of the landing area.	MD	ICAO stipulates "Applicable to all new builds completed on or after 01 January 2012". This is supported for CAP 437.	Not applicable to existing installations except where the helideck net support system is due to be replaced.
Chapter 4 Section 2. For natural light grey coloured aluminium helidecks the conspicuity of markings should be enhanced by outlining them with a thin (10cm) black line.	Chapter 4 Section 2. For natural light grey coloured aluminium helidecks conspicuity of markings should be enhanced by overlaying them on a black painted background.	N/A	All new build aluminium helidecks.	Where the conspicuity of markings utilising black outlining is assessed by the helicopter operator to be "good", no action is required. Where conspicuity is poor, markings should be overlaid on a black painted background at the next convenient opportunity.
Chapter 4 Section 2. Paragraph 2.4. Aiming circle should be offset 0.1D away from the centre of the D circle towards the outboard edge. On bow mounted decks and for decks 16.0m or less the aiming circle should be on deck centre	Chapter 4, Section 2, Paragraph 2.6. The TD/PM marking should be concentric with the centre of the D circle except it may be offset by up to 0.1D away from the centre of D where an aeronautical survey indicates it is beneficial to do so.	N/A	All new build helidecks, regardless of D-value, will normally have the TD/PM circle located concentric with the centre of D except where an aeronautical survey indicates that an offset marking is beneficial.	Any existing helidecks where an offset marking is used should be reassessed by HCA in consultation with the helicopter operators to ensure adequate safety of flight operations and ground handling issues. Where necessary the TD/PM circle should be re-located to deck centre.

<p>Impact of non-aeronautical lighting on helideck lighting systems is not currently addressed</p>	<p>Chapter 4 Section 3. (New note). Specifies that where non-aeronautical platform lighting has potential to cause confusion to aeronautical lighting it should be shielded or extinguished.</p>	<p>MD</p>	<p>All new build helideck arrangements should be subject to an assessment</p>	<p>All existing platforms should be assessed by the helicopter operator; any existing platform where the potential for confusion exists installation or vessel operators may need to consider shielding or extinguishing non-aeronautical lights</p>
<p>Chapter 4, Section 3, Para 4.</p>	<p>Chapter 4 Section3, Para 4 and new Appendix E. Formal specification now published for TD/PM circle and 'H' lighting systems</p>	<p>N/A</p>	<p>New build helidecks may take advantage of improved "stage 2" systems in lieu of floodlighting "with immediate effect</p>	<p>All existing installations, especially refurbishments and Normally Unattended Installations may take advantage of improved systems with immediate effect.</p>
<p>Chapter 4 Section 3 Para 10. Specification in accordance with CAA paper 2003/06. Photometric specification verified in accordance with Appendix B Flashing light test procedure.</p>	<p>Chapter 4 Section 3 Para 10. Specification in accordance with CAA paper 2008/01 Appendix B. Flashing light test procedure revised / republished following an independent NPL review of standards</p>	<p>N/A</p>	<p>All new build helidecks</p>	<p>It is required that status lights on existing installations should comply in full with the latest published specification. Where status lights only meet the previous published specification 2003/06, units should be replaced with compliant systems or an operational limitation commensurate with the established performance of the systems should be</p>

				applied.
<p>Chapter 5, Section 2. A fixed monitor system should produce foam at the required application rate within 30 seconds from the time of the incident. NB: The 30 second 'requirement' was first introduced into CAP 437, 3rd Edition, October 1998</p>	<p>Chapter 5, Section 2. A fixed monitor system should produce foam at the required rate within 15 seconds from the time the system is activated and should bring a helideck fire under control within a further 30 seconds.</p>	MD	<p>All new build systems should be designed to meet the MD response time objective requirements of Edition 6.</p>	<p>For systems designed in accordance with earlier editions of CAP 437, the response time objectives of Chapter 5, Section 2 5th edition should be demonstrated. However, where the measured response time is recorded between 15 and 30 seconds, HCA will encourage dutyholders to consider cost effective (reasonable) modifications to the existing FMS in order to demonstrate compliance with the MD requirements of Edition 6.</p>
<p>Chapter 5, Section 2. Hand controlled foam branch pipes should meet a minimum application rate of 250 litres/min.</p>	<p>Chapter 5, Section 2. Hand controlled foam branch pipe(s) should meet a minimum application rate of 225 litres/min.</p>	LD	<p>New builds should at-least meet the minimum requirements of CAP 437, 6th Edition.</p>	<p>Existing installations and vessels can acquire 225 litres/min minimum capacity foam branch pipes when they fall due for replacement.</p>
<p>Chapter 5, Section 2 No detailed performance specification for a DIFFS</p>	<p>Chapter 5, Section 2. A DIFFS system should meet a basic performance specification to ensure that a helideck fire is brought under control</p>	MDLD	<p>New builds should meet the minimum performance specification. Note: Following actual tests witnessed in China in November</p>	<p>The objective should be achieved by all existing installations and vessels that utilise a DIFFS. dutyholders should demonstrate</p>

	<p>within 30 seconds assuming one or more nozzles is rendered ineffective due to a crash situation. Note: The same activation requirement exists for a DIFFS as for an FMS i.e. 15 seconds from activation to actual foam production at the required rate. Note: DIFFS is regarded as a most effective alternative to FMS and therefore is now “strongly encouraged” for new builds. Pop up nozzles should have a vertical as well as a horizontal spray component.</p>		<p>2008, there is acceptance for the use of a seawater only DIFFS when used in conjunction with a passive fire-retarding system. Where a suitable DIFFS is provided in lieu of an FMS, the provision of hand controlled foam branch pipes may not be necessary. Any residual fire may be addressed using normal prescribed hand-held extinguishers.</p>	<p>‘fitness for purpose’ to HCA. The provision of a passive-only fire retarding system (i.e. no ‘active’ DIFFS intervention) is only acceptable “For existing NUI’s” e.g. when replacing an old steel deck with a new passive (e.g. safety) deck where no power is available to run a fire pump. For an NUI where seawater only DIFFS is provided, it would no longer be necessary to provide delivery of foam from a portable extinguisher. A quantity of secondary media would be needed to deal with any residual fire.</p>
<p>Chapter 5, Section 4. 9Kg of halogenated hydrocarbon or 18Kg of CO2 complementary agent should be provided.</p>	<p>Chapter 5, Section 4. 18Kg of gaseous CO2 agent is required from 1 or 2 extinguishers.</p>	<p>MD</p>	<p>New build installations and vessels should select 18Kg CO2 gaseous agent.</p>	<p>Existing installations may continue to utilise halogenated hydrocarbon. When replacing gaseous CO2 extinguishers should be selected.</p>
<p>Chapter 6, Section 4 Some weather parameters may be measured by conventional instruments while</p>	<p>Chapter 6, Section 4, Para 4.1. Meteorological information provision of automated MET equipment.</p>	<p>MD</p>	<p>Dependant on the location of a fixed platform relative to another fixed platform, which has a full suite of automated MET</p>	<p>Dependent on the location of a fixed platform relative to another fixed platform which has a full suite of automated MET</p>

some parameters may be assessed by visual observations			equipment on board. For a floating system, it will usually be possible to derive some WX parameters from an installed Helideck Monitoring System (HMS).	equipment on board
No requirements for the reporting of Met information specified in CAP 437, 5th Edition	Chapter 6, Section 4, Para 4.2. Reporting of Meteorological information.	MD	Applies to all new build installations and vessels where automated Met equipment is provided	Applies to all existing installations and vessels where automated Met equipment is provided
No requirements for collection and retention of data specified in CAP 437, 5th Edition	Chapter 6, Section 4, Para 4.3. Collection and retention of Meteorological information provision of real time web based systems.	MD	Applies to all new build installations and vessels where automated Met equipment is provided	Applies to all existing installations and vessels where automated Met equipment is provided
No requirement for Met Observer training in CAP 437, 5th Edition	Chapter 6, Section 4, Para 4.4. Recommendation for MET Observer training including annual refresher training.	MD	Applies to all new build installations and vessels where automated Met equipment is provided	Applies to all existing installations and vessels where automated Met equipment is provided
Option for a reduced width deck (0.83D) with limited landing headings is not available.	Chapter 9, Paragraph 1.5. Note: Acceptance of limited width arrangement with limited landing headings	LD	Not applicable to new installations. Applicable to new vessels only with the endorsement of HCA. (Note primary application is to large yacht pleasure vessels)	Not applicable to existing installations. Applicable to existing vessels, other than yachts, only with the endorsement of HCA.

Obstacle accountability for the surface of the helideck is not currently prescribed	Chapter 9, Paragraph 2.2. Objects whose function requires them to be on the surface of the landing area should not exceed 2.5cm (see also Chapter 3, section 6.3)	MD	Applicable to all new-builds. ICAO stipulates "Applicable to all new builds completed on or after 01 January 2012".	All existing vessels should be re-assessed and any identified non-compliances should be removed or mitigated.
Chapter 9, Section 4 and Figure 2 ship's side non-purpose built: obstacles in the clear zone should not exceed 25cm. Obstacles in the LOS (MZ) should not exceed 0.05D.	Chapter 9, Section 4, new Figure 3 ship's side non-purpose built obstacles in the clear zone should not exceed 2.5cm. Obstacles in the manoeuvring zone should not exceed 25cm.	MD	Applicable to all new ship's side arrangements. The 2008 4th edition ICS Helicopter/Ship Guide provides a system for 'mapping' and 'marking' obstructions, which cannot otherwise be removed.	Applicable to all existing ship's side arrangements. The 2008 4th edition ICS Helicopter/Ship Guide provides a system for 'mapping' and 'marking' obstructions that cannot be removed.
Deck markings for a ship's side arrangement not specified in CAP 437, 5th Edition.	Chapter 9, Section 5, Figure 4. Detailed deck marking scheme for ship's side (non-purpose built) arrangement	N/A – complies with good practice in the 2008 ICS Helicopter/Ship Guide	Applies to all new build vessels.	Applies retrospectively to all existing vessels with re-painting (as necessary) occurring at the earliest convenient opportunity.
Deck markings for a shipboard winching area not specified in CAP 437, 5th Edition.	Chapter 10, Section 1.2, Figure 1. Detailed deck marking scheme for 'shipboard' winching area arrangement.	N/A – complies with good practice in the 2008 ICS Helicopter/Ship Guide and ICAO Annex 14 Volume II (2009)	Applies to all new build vessels.	Applies retrospectively to all existing vessels with repainting (as necessary) at the earliest convenient opportunity.

Note: New design requirements for winching areas on wind turbine platforms are included for the first time in CAP 437 (chapter 10)

Disclaimer: This document is not intended to record **every** difference between CAP 437, Edition 5 and 6, but is intended only to highlight areas of significant change.