BL 3-5

Regulations on helidecks on offshore installations*

Edition 4, 18 December 2006

In pursuance of § 52, § 70, and § 149 (10) of the Danish Air Navigation Act, cf. Consolidation Act no. 1484 of 19 December 2005, the Civil Aviation Administration hereby stipulates on the authority of the Ministry of Transport and Energy, cf. Order no. 795 of 3 September 2001 on delegation of authorities to the Civil Aviation Administration - Denmark and on publication of the Regulations issued by the Administration:

1. Reference documents

1.1 Order on the continental shelf with latest amendments.

1.2 Decree of 7 June 1963 regarding the exercise of sovereignty over the continental shelf.

1.3 BL 3-3, Regulations on radio navigation and radio landing aids on the ground, latest edition.

1.4 BL 3-6, Refuelling of aircraft etc., latest edition.

1.5 BL 3-18, Regulation on establishment of aerodrome management on approved aerodromes etc., latest edition

1.6 BL 7-18, Regulation on meteorological equipment on aerodromes, latest edition.

1.7 BL 7-22, Regulations on VHF radio installations on the ground for speech communication, latest edition.

1.8 BL 7-23, Regulation on automatic recording of speech communication and data, latest edition.

1.9 The documents mentioned in paragraphs 1.1 - 1.8 can be found on Retsinformation's homepage www.retsinfo.dk and, as regards the documents mentioned in paragraphs 1.3 - 1.8, also on the Civil Aviation Administration - Denmark's homepage www.slv.dk. The latter documents can also be obtained on application to

Civil Aviation Administration - Denmark
Service Centre
P.O. Box 744
Ellebjergvej 50
DK-2450 Copenhagen SV
Denmark
Tel.: +45 3618 6000
Fax: +45 3618 6001
E-mail: ais@slv.dk

* The BL has been notified in a draft edition to the European Commission in accordance with the provisions of Directive 98/34/EC (the information procedure directive) of the European Parliament and of the Council as amended most recently by Directive 98/48/EC.

2. Definitions

"Chevron" mark:
A mark stating the definitions of the obstacle free surface over the helicopter deck level at an angle of 210°.

D value (D):
The D value (D) is the total length of a helicopter from the front edge of the main rotor to the back end of the tail rotor.

Helicopter landing officer (HLO):
A person with a special training who is in charge of the daily work in connection with helicopter operations on an offshore installation.

Helideck:
Helideck on offshore installation.

Offshore installation:
Platform or other installation on the sea. Offshore installations include both stationary and mobile offshore installations.

Offshore installation, mobile:
Offshore installation which can be moved from one position to another by sailing or towing and which is intended to be used in several different positions in its life, including the following vessels: drill ships, diving ships, floating production store and shipping units as well as cable and culvert vessels. The vessels thus being mobile offshore installations are collectively called vessels in this BL.

Offshore installation, stationary:
Offshore installation permanently erected on the sea bed.

Safe landing area (SLA):
Designation for the safe landing area which in certain cases can be larger than the area defined by the D value.

3. Applicability

This BL applies to helidecks on offshore installations which are within Danish waters and/or shelf area with the purpose of exploring or exploiting the continental shelf, cf. § 1 of the Air Navigation Act, § 3 of the Act on the Continental Shelf and § 1 of Decree no. 259 of 7 June 1963 regarding the exercise of sovereignty over the continental shelf. The BL shall also apply to helidecks used for hoist operations on windmills etc.

Note: This also includes the shelf areas near the Faeroe Islands and Greenland.

4. General

4.1 The owner of an offshore installation on which a helideck is established, shall be responsible for the establishment, operation and maintenance of installations, equipment and services being performed in accordance with the provisions in this BL and any special conditions stated in the technical approval, cf. paragraph 5.1.

4.2 The manager of the offshore installation shall be responsible for the daily operation and maintenance of the helideck being performed in accordance with the technical approval, the helideck manual and existing provisions, for observing the provisions in this BL and the instructions, cf. paragraph 34.5, and for persons employed in connection with helicopter operations having the necessary training and the necessary knowledge of existing instructions etc. Further the manager in question shall be responsible for notifying the Civil Aviation Administration and any helicopter operators of circumstances arisen that implies that the helideck no longer meets the provisions in this BL. If the person in question estimates that such circumstances may lead to danger when using the helideck, the flying activities shall immediately be discontinued.

4.3 The helicopter landing officer (HLO) shall be responsible for observing the obligations resting with him under paragraph 35.3.

4.4 The radio operator shall be responsible for attending to the correspondence with the helicopter pilots under paragraph 36.2.

5. Approval

5.1 Before a helideck is taken into operation, it shall have been technically approved by the Civil Aviation Administration - Denmark. The Civil Aviation Administration - Denmark normally inspects a helideck before a licence is issued, and supervises the installation and its operation.

5.1.1 The Civil Aviation Administration shall have received an application for approval of a helideck not later than one month prior to commencement of operation. The following information shall be enclosed:

a. Specification of the largest helicopter type to be operated.

b. Declaration substantiating that the load-bearing capacity of the helideck is sufficient for the helicopter type in question. For stationary offshore installations the declaration shall be issued by the Danish Energy Authority or by a classification company, and for mobile offshore installations it shall be issued by the Danish Maritime Authority or a classification company.

c. Situation drawings with dimensions showing the entire offshore installation in plane and section views in a legible scale.

d. Drawing of the helideck and its immediate surroundings. The drawing shall show the location of the obstacle free surfaces, cf. Part 9 and Parts 29-31, and any obstacles with specification of their height above the helideck surface.

e. Drawings specifying the details of the helideck, cf. Parts 10-18.

f. Description, specification of quantity and information on the positioning of the equipment mentioned in Parts 18-28.

g. Information on liability and instructions, cf. Parts 4 and 34.

h. Copy of any approvals from foreign civil aviation authorities.

i. Helideck manual for the stationary installations.

5.2 It is a condition for technical approval that the helideck meets the technical requirements and other requirements in this BL.

5.3 The approval is granted for a period of up to five years for helidecks on stationary offshore installations and up to one year for helidecks on mobile offshore installations.

5.3.1 The approval shall be revoked if the offshore installation leaves Danish waters and/or shelf area. However, direct movement between areas over which Denmark has the sovereign power does not result in annulment of the approval.

5.3.2 If a previously approved helideck returns to Danish waters/shelf area, a renewed licence may be issued on the basis of a declaration from the owner stating that the helideck has undergone no changes since the latest approval.

6. Technical requirements to helidecks etc.

6.1 Helidecks for single main rotor helicopters located on offshore installations shall meet the technical requirements in Parts 7-28, cf. however, paragraphs 6.2 and 6.3.

6.2 Helidecks for single main rotor helicopters located between stem and stern on vessels shall meet the technical requirements in Part 7, Parts 10-14 and Parts 16-29.

6.3 Helidecks for single main rotor helicopters located near one side of vessels shall meet the technical requirements in Part 7, Parts 10-14, paragraphs 15.1, 15.2, 15.3.2, 15.4-15.6, 15.8, Parts 16-28 and Part 30.

6.4 A hoist area on offshore installations shall meet the technical requirements in Part 31.

7. Physical characteristics of a helideck

A helideck for single main rotor helicopters shall be designed in such a way that all dimensions of the helideck are always larger than or equal the D value of the largest helicopter type using the helideck.

8. Location of helideck

A helideck shall be located in such a way that turbulence induced by the structure above and below the helideck platform in connection with strong wind is minimised as much as possible in the final approach and take-off directions for the helideck normally used. Further exhaust from gas turbines etc. shall be taken into consideration.

9. Obstacle free surfaces

9.1 A helideck shall be provided with an obstacle free sector of 210° above the helideck surface with origin in a defined point on the helideck periphery. The point shall be marked with a painted "Chevron" mark, cf. paragraph 13.5. There must not be any obstacles in the obstacle free sector at an angle of 210° above the helideck surface out to a distance of 1,000 m from the helideck.

9.1.1 For existing offshore installations it is acceptable that the obstacle free 210° sector is turned to each side +/-15° relative to the symmetry line goes through the helideck centre and the "Chevron" mark.

9.2 In the remaining 150° sector over the helideck surface an obstacle free surface shall be established consisting of two sectors called sector 1 and sector 2, respectively.

9.2.1 Sector 1 stretches horizontally out to a distance of 0.62 x D value calculated from the helideck centre. The height of the sector shall be 0.05 x D value.

9.2.2 If the safe landing area (SLA) covers a larger area than the declared D value, the origin of sector 1 shall be located at the helideck perimeter line ending at a distance from the perimeter line calculated by the formula 0.12 x D value.

9.2.3 Sector 2 is defined by a surface with a positive gradient of 30° with origin located at the outer limit of sector 1 and ending at a distance calculated by 0.83 x D value with origin in the helideck centre.

9.2.4 If the safe landing area (SLA) covers a larger area than the declared D value, the origin of sector 2 shall be calculated by the distance 0.12 x D value and the end by 0.21 x D value, both distances calculated form the actual perimeter line of the helideck.

9.2.5 Sector 1 as well as sector 2 will in all possible configurations be lines parallel with the edge off the helideck, including the edge off the safety net.

9.3 Within the 210° sector there must not be any equipment penetrating a height above 25 cm measured relative to the helideck surface.

9.4 A helideck shall be provided with an obstacle free surface in level with and below the helideck platform in a sector of an angle of 180° out to a distance of 1000 m from the helideck. This sector's origin shall be located in the helideck centre and shall be provided with a sloping obstacle free surface originating from the helideck perimeter, including the edge of the safety net, down to sea level with a falling gradient of 5:1.

9.4.1 For existing offshore installations it is acceptable that the obstacle free 210° sector is turned to each side +/-15° relative to the symmetry line goes through the helideck centre and the "Chevron" mark.

9.4.2 If the 210° sector is not turned, a turn of the 180° to each side, if relevant, is optional as mentioned in paragraph 9.4.1.

9.4.3 If the 210° sector is turned relative to the symmetry line mentioned in paragraph 9.1.1, a turn of the 180° sector can only be accepted if it is turned to the same side and at the same angle as the 210° sector is turned.

10. Helideck surface

10.1 The helideck surface shall have a coating ensuring that the coefficient of friction is at least 0.65. Coated surface may, however, be omitted if the helideck used is made of extruded aluminium profiles where the same friction conditions can be obtained by a worked-up or casted, fluted structure in the surface.

10.2 A helideck shall be equipped with a drainage system around the safe landing area (SLA) of the helideck and with a gutter with the purpose to lead rainwater and fuel spills away from the helideck.

10.3 The helideck on mobile offshore installations shall be equipped with a kerb encircling the entire safe landing area (SLA). The kerb shall be perforated with appropriate numbers of holes to allow rainwater and fuel spills to pass the kerb down to the gutter, cf. paragraph 10.2. The kerb must not be of a height that shades the helideck edge lights, cf. Part 16.

10.4 A helideck shall be equipped with a rope net made of natural products (sisal). The rope net shall be located with midpoint in the centre of the aiming circle and shall be made if 20 mm rope with a mesh size of 200 mm.

10.4.1 The rope netting size shall depend upon the type of helicopter using the helideck. However, only rope nets of the below-mentioned three sizes may be used:

D value < 12 m:	9 x 9 m
12 m < D value < 20 m:	12 x 12 m
D value > 20 m:	15 x 15 m

11. Tie-down points

11.1 A helideck shall be equipped with tie-down points to secure all types of helicopters operating on the helideck with respect to undesirable movements when parked.

11.2 The number and dimensions of the tie-down points shall be made in such a way as to ensure a helicopter in any weather situation which can occur at the locality. In connection with the dimensioning the inertial forces as additional forces shall be taken into account introduced by the vessel's or ship's own movements in the sea.

12. Safety nets

12.1 A helideck shall be equipped with a 1.5 m wide safety net on all sides, except for sections where the helideck is in level with large surrounding areas.

12.2 The safety net shall have a positive slope outwards and upwards of 10^{o} and shall be mounted in such a way that the safety net protects persons on the helideck and at the same time does not exceed a height of 25 cm above the helideck level, cf. paragraph 9.3.

12.3 The safety net shall be flexible and dimensioned so that it can stand any load that may occur if a person weighing 100 kg falls out in the safety net.

13. Access/escape routes

A helideck shall be provided with at least two access/escape routes located so that, in the event of an accident, passengers can escape upwind in all wind conditions.

14. Visual aids

14.1 The name of a helideck shall be painted on the helideck between the "Chevron" mark and the aiming circle with symbols of at least 1.2 m. The name shall be painted in white colour and shall be illuminated at night and in conditions of poor visibility. The name shall be identical to that of the offshore installation in question and shall be approved as VHF radio call sign.

14.2 A helideck shall be provided with a windsock located so that it is in a free wind field without noticeable disturbances from the surrounding structure. The windsock shall be illuminated so that it can be seen from all directions in all illumination conditions.

14.3 A windsock shall have the form of a truncated cone with a diameter of maximum 0.6 m and minimum 0.3 m and a length of 2.4 m, and the colour shall be orange or red/white in 5 alternate bands the first and the last being red.

15. Helideck painting and marking

15.1 The helideck surface shall be painted in the colours dark grey or dark green. Helidecks of pure aluminium may, however, be unpainted if all other markings are surrounded by a 10 cm wide black line.

15.2 A helideck shall be provided with a perimeter line marking the safe landing area (SLA). The perimeter line shall consist of a white painted line 0.3 m wide.

Note: In most situations the safe landing area (SLA) equals the area defined by the D value painted on the helideck.

15.3 A helideck shall be provided with a mark in the form of a "Chevron" marking the origin of the obstacle free 210° sector. The "Chevron" shall be black. Each leg of the chevron shall be 79 cm long and 10 dm wide forming an angle of 150° which is coincident with the obstacle-free 210° sector, cf. paragraph 9.1.

15.3.1 The chevron can either be painted as shown in figure 4 in the appendix to this BL or in the top of the white perimeter line.

15.3.2 The actual D value of the helideck shall be painted in white colour in 3 positions around the white perimeter line as shown in figure 4 in the appendix to this BL. The D value shall be pained in alphanumeric symbols with a height of 60 cm and a line diameter of 10 cm.

15.4 The approved load bearing capacity shall be painted on the helideck as stated in figure 3 in the appendix to this BL. The number shall be painted in white colour with a height of 90 cm and width of 12 cm.

15.5 A helideck shall be provided with an aiming circle as a yellow circle with an inner diameter of 0.5 x D value and with a width of 1 m.

15.5.1 If the helideck D value is 16 m or below, the centre of the aiming circle may be identical with the geometrical centre of the helideck.

15.5.2 If the helideck D value is above 16 m, the centre of the aiming circle may be allowed to be located a distance up to 0.1 x D value offset the helideck geometrical centre. Any offset of the aiming circle shall always be in the same direction as the symmetry line of the 210° sector and always so that the distance to the chevron is increased in case of dislocation.

15.6 A helideck shall be provided with an H in the centre of the aiming circle. The dimensions of the H symbol shall be in accordance with what is shown in figure 4 in the appendix to this BL.

15.6.1 If the 210° sector has been turned, the horizontal line of H symbol shall be parallel with the symmetry line mentioned in paragraph 9.1.1.

15.7 On existing helidecks on mobile offshore installations constructed so that it is not possible to remove certain obstacles penetrating the obstacle free surfaces, a restriction mark shall be marked where the helicopter nose must not be parked. The painting of the restriction area shall be in accordance with figure 5 in the appendix to this BL.

15.7.1 Where helicopter types with long tail bar are operated and where there may be a risk of collision between the tail rotor and installation on the helideck, the helideck shall be provided with the painting mentioned in paragraph 15.7.

15.8 At a helideck there shall be a signal in the form of a red cloth with a yellow cross which shall be placed on the helideck surface in case a situation has arisen where landing is prohibited, cf. figure 6 in the appendix to this BL.

16. Lighting

16.1 A helideck shall be provided with perimeter lights equally spaced at intervals of not more than 3 m. The perimeter lights shall be located immediately outside the perimeter line for the area defined by the D value of a helideck, or the safe landing area (SLA) if the latter area is the larger.

16.1.1 The perimeter lights shall be green and emit omnidirectionally over a horizontal plane with an effective intensity complying with the following values:

Vertical angle	Intensity
0^o - 90^o	Maximum 60 candelas
> 20^o - 90^o	Minimum 3 candelas
> 10^o - 20^o	Minimum 15 candelas
0^o - 10^o	Minimum 30 candelas

16.2 Where the shape of the helideck is a rectangle there shall at least be placed perimeter lights in each corner and a number of perimeter lights on the sides that implies that the interval does not exceed 3 m.

16.3 In cases where a helideck is provided with a helicopter parking area outside the obstacle free 210^o sector, the parking area shall be marked with red perimeter lights with the same intensity as stated in paragraph 16.1.1.

16.4 The helideck surface shall be equipped with flood lights if it is intended to be used by night. It must be possible to turn on and switch off the lights independently of the rest of the lighting system.

17. Obstacle marking and lighting

17.1 Fixed obstacles on a helideck which are not easy to identify from the air, shall be marked in daytime with a pattern in one of the following three colour combinations:

- Red and white.
- Black and white.
- Black and yellow.

The single painted bands in the pattern shall not be less than 50 cm and not more than 6 m wide.

17.2 All fixed obstacles located outside, but close to the obstacle free sectors shall be equipped with a red obstacle light with an intensity of at least 10 candelas. Obstacles with a height above 15 m above the helideck level shall be equipped with obstacle lights with the same intensity spaced vertically at maximum 10 metres intervals. Illumination by floodlight of the structure in question can be accepted as alternative to the above-mentioned obstacle marking.

17.3 The highest point of an offshore installation or vessel shall be fitted in the top with red omnidirectional obstacle lights with an intensity of from 32 to 200 candelas.

18. Rescue and fire fighting facilities

18.1 A helideck shall be equipped with rescue and fire fighting facilities which can be used with a response time of not more than 30 seconds.

18.2 The rescue and fire fighting facilities shall include foam producing equipment located close to the helideck, or as an integrated part of the helideck, which can uniformly spread foam on every part of the helideck in all weather situations expected to arise at the locality.

18.3 The amount of foam per minute to be available at the helideck shall equal to at least the amount of foam produced by 6 litres of water/foam per minute per square metre. The area on which the calculation of the amount of foam is based, is the area defined by the D value for the helideck.

Note: When calculating the amount of water the following formula can be used:

Total amount of water per minute = (D value)^2 x π/4 x 6 litres per minute.

18.4 The foam producing system shall include integrated induction equipment to en-

sure that water and foam concentrates are mixed in correct proportions, except where premixed water/foam solutions are used as agent.

18.5 The foam producing system shall be able to produce foam without interruption for at least 5 minutes.

Note: Calculation of total foam concentration supply can be made from the following formula:

Supply = (D value)^2 x π/4 x 6 litres per minute x foam concentration percentage x 5 minutes.

18.6 If foam is to be carried through by use of foam monitors, there shall be at least three foam monitors at the helideck distributed in such a way that at least one of these can always be operated in the wind direction The angle between the foam monitors shall not exceed 140^o. Main fire pump, piping system and foam monitors shall be designed so that the water pressure immediately before the foam monitors' fitting flange is at least 6 bars, but not more than 8 bars when the system is in operation. It shall be possible to uphold this pressure level when one or two foam monitors are in operation. It shall be possible for each foam monitor to deliver at least half the amount of foam required in paragraph 18.3.

18.6.1 If the carrying through of foam is made by use of a multi nozzle system integrated in the helideck or located in a ring around the helideck, it shall be designed to be capable of operating in weather conditions with frost and supercooled rain, including glazed frost.

18.7 In addition to the foam producing installation the following extra equipment shall be available near the helideck:

a. Two hand controlled fire hoses with spray nozzles each capable to deliver minimum 250 litres per minute of clear water.

b. A 45 kg dry powder (ABC powder) extinguisher capable of discharging at least 2 kg powder per minute.

c. One carbondioxide extinguisher of at least 18 kg.

d. The following equipment:
1 adjustable wrench.
1 rescue axe.
1 bolt cutter.
1 crowbar.
1 salving hook.
1 hacksaw with 6 spare blades.
1 two-piece ladder.
1 15 m lifeline (diameter 5 cm), including rescue harness.
1 set of assorted screwdrivers.

e. A motor rescue boat which is ready for immediate assistance in case of an aircraft accident during take-off and landing.

f. A metal boat-hook with a shaft 3 m long.

g. Power cutting tools for helidecks with a D value above 24 m.

19. Personal equipment for firemen and HLO

19.1 The following equipment shall be available for each fireman when on duty:

a. Protective clothing, including fire-resistant gloves, boots and helmet with vizier.

b. Air breather apparatus (compressed air type) for protection of respiration.

c. An escape knife.

19.2 HLO shall be equipped with a brightly coloured "HLO" tabard and the portable radio mentioned in Part 21.

20. Refuelling

If there is a refuelling installation at the helideck, check of fuel and refuelling shall be made in accordance with the provisions in BL 3-6.

21. Radio station

At a helideck there shall be at least one radio station and a portable radio intended for aeronautical communication with belonging frequencies approved in accordance with the provisions in BL 7-22.

22. Radio beacon (NDB)

If a helideck installation is equipped with a radio beacon (NDB), this equipment shall be approved in accordance with the provisions in BL 3-3.

23. Bank indicator etc.

A helideck located on a mobile offshore installation shall be provided with instruments capable of showing the vessel's heave, pitch and roll.

24. Meteorological equipment

A helideck at an offshore installation shall be provided with the following meteorological equipment:

a. An anemometer capable of measuring wind direction and force which must be approved in accordance with the provisions in BL 7-18. The anemometer must be capable of transmitting data from sensor to a operator room so that the data are easily accessible for the personnel serving the helideck.

b. A thermometer capable of measuring the outdoor temperature, approved in accordance with the provisions in BL 7-18.

c. A hygrometer which either electronically or by use of conversion tables is capable of giving the actual dew point. The hygrometer shall be approved in accordance with the provisions in BL 7-18.

d. A barometer which either electronically or by use of conversion table is capable of giving the actual QNH value or QFE value measured in units Hecto Pascal. The barometer shall further be approved in accordance with the provisions in BL 7-18.

25. Other equipment

A helideck at an offshore installation shall be provided with a scale for weighing baggage, cargo and persons. Chocks and tie-down strops/ropes shall be available.

26. Alarm system

A helideck at an offshore installation shall be provided with an alarm system which can be activated from a location from where the helideck can be kept under surveillance constantly.

27. Back-up power system

A helideck at an offshore installation shall be provided with a back-up power system. Changing over shall be done within 15 seconds. The helideck lighting systems, communication systems, navigation equipment, meteorological equipment and alarm system shall be supplied by the back-up power system.

28. Signs

28.1 The following signs with text in Danish and English shall be put up at the access routes to the helideck:

a. Entrance on helideck area prohibited during take-off and landing.

b. No smoking and use of open fire.

c. No traffic behind helicopters with rotors in operation.

28.1.1 In special cases the Civil Aviation Administration - Denmark may require signs in other languages than mentioned above.

29. Helidecks for single rotor helicopters located amidship on vessels

Note: According to paragraph 6.2 a helideck located between stem and stern (amidship) shall meet the technical requirements in this Part in addition to the requirements in Parts 7, 10 - 14 and 16 - 28.

29.1 The helideck shall be provided with two symmetrical obstacle free surfaces of 150° each on each side so that these are located with an extension to both sides at right angles to the approach and take-off directions with point of origin in the helideck edge line. Further the two 150° sectors shall have an outward and upward slope of 5° out to a distance given by the D value as shown in figure 7 in the Appendix to this BL. No objects above a height of 25 m above helideck level are allowed in the area outside the helideck edge and in the approach and take-off sectors.

29.2 The helideck shall be painted as described in Part 15 except that it shall be provided with two "Chevron" marks, one opposite each of the apexes of the two 150° sectors. The "H" marking and the aiming circle shall always be located in the geometric centre of the helideck. The helideck name, cf. paragraph 14.1, shall be painted close to one of the two "Chevron" marks.

29.3 The helideck may only be used then there are operative limitations approved by the Civil Aviation Administration - Denmark.

30. Helidecks for single rotor helicopters located near one side of the vessel

Note: According to paragraph 6.3 a helideck located between on one side of a vessel shall meet the technical requirements in this Part in addition to the requirements in Part 7, Parts 10 - 1, paragraphs 15.1, 15.2, 15.3.2, 15.4 - 15.6 and 15.8 and Parts 16 - 28.

30.1 The helideck may only be used then there are operative limitations approved by the Civil Aviation Administration - Denmark.

30.2 The obstacle free surfaces shall consist of a zone around the helideck area with a width of 0.25 x D value with a height limitation determined by the value 0.05 x D value. The obstacle free surface shall have an inner width of 1.5 x D value at the ship's or vessel's side and shall be secant to the circle or edge line making up the helideck periphery in a point located in the distance 0.5 x D value from the vessel's side. The obstacle free surface is shown in figure 8 in the Appendix to this BL.

30.3 No objects above a height of 25 m above helideck level are allowed in the area outside the helideck edge and in the approach and take-off sectors.

30.4 The "H" marking and the aiming circle shall always be located in the geometric centre of the helideck.

31. Hoist area on offshore installations

31.1 A hoist area may only be used for transportation of persons if there is no other possibility of establishing a normal helideck on the vessel.

31.2 The hoist area shall be established as a clear zone with a diameter of 5 m. The clear zone shall be surrounded by an obstacle free surface with a diameter of 1.5 x D value with a height limitation of 3 m. Finally out to a distance of 2 x D value there shall be a height limitation of 6 m as shown in figure 9 in the appendix to this BL.

32. Helidecks on offshore installations intended for tandem rotor helicopters

Helidecks on offshore installations intended for tandem rotor helicopters shall meet the technical requirements specified by the Civil Aviation Administration - Denmark in each individual case.

33. Maintenance

A maintenance system shall be established ensuring that the helideck and its equipment and services always meet the regulations in this BL.

34. Helideck manual and instructions

34.1 The operation of a helideck on a stationary installation shall be covered by a Safety Management System which must be described in the helideck manual, cf. paragraph 34.2 - 34.4.

34.2 A helideck manual shall be in place for both stationary and mobile offshore installations.

34.3 The helideck manual for stationary installations shall meet the requirements in BL 3-18.

34.4 For mobile offshore installations the helideck manual shall include the following:

a. A description of the deck and its equipment and services.

b. All instructions and guidelines connected with the operation of the deck.

34.5 It lies with the person holding the approval of a helideck to ensure

a. that instructions have been prepared for the head of the offshore installation, for HLO, for radio operators, for meteorological observers and for firemen,

b. that instructions have been prepared for inspection and maintenance of installation and equipment etc., including record keeping for inspections and maintenance, and

c. that there are instructions for emergency situations and accidents.

35. HLO

35.1 When helicopters are operated an HLO must be present at the helideck, cf., however, Part 39.

35.2 To be allowed to discharge his duties as HLO, the person in question shall have completed a HLO course at the a school which is approved by the Civil Aviation Administration - Denmark, or at a comparable foreign school.

35.2 It lies with an HLO

a. to be in charge of the daily work in connection with helicopter operations,

b. to keep the head of the offshore installation informed of the state of affairs regarding the helideck, equipment and services,

c. to ensure that there are no persons or loose items on the helideck during take-offs and landings,

d. to maintain contact with the helicopter pilot, either directly or via the radio operator of the off-shore installation, to inform him whether the deck is clear, and

e. to ensure that the firemen are ready.

35.4 If HLO uses portable radio equipment with a range of more than 1 NM or permanent radio equipment, he shall be authorized to do so by the Civil Aviation Administration - Denmark or comparable foreign authority.

36. Radio operator/meteorological observer

36.1 Transmission on the aeronautical frequencies shall only be done by persons who hold a national N-JOR licence with English phraseology, or by persons approved to do so by the Civil Aviation Administration - Denmark.

36.2 The radio operator shall communicate with the helicopter pilot in accordance with existing regulations and shall pass on meteorological information, etc.

36.3 If the radio operator does not prepare the meteorological information himself, another person on the offshore installation shall be appointed to do so.

36.4 The meteorological observer may in special cases be subject to the approval of the Civil Aviation Administration - Denmark.

37. Firemen

In connection with helicopter operations there shall be at least two trained firemen present at the helideck, cf. however, Part 39. At least one of these shall be dressed in a protective suit and shall stay near the foam monitor for rapid intervention, if necessary. An HLO trained person, cf. Part 35, may be one of the two firemen.

38. Unmanned helidecks

38.1 The manning requirements in Parts 35 - 37 shall not apply to unmanned helidecks if the average number of operations does not exceed one per week.

38.2 When operating to unmanned helidecks, the helicopter must not carry transit passengers.

38.3 In connection with major operational activities at unmanned helidecks, a HLO/fireman and a fireman shall be carried on the day's first flight who shall perform their respective functions that are required for a manned installation. The HLO and the fireman shall be the first to be landed and the last to leave the deck.

38.4 Unmanned helidecks shall not meet the requirements regarding fire fighting equipment, cf. Part 18, with the exception of paragraph 18.7, letters d.-f., but shall instead be equipped with the following fire fighting equipment:

a. 2 foam installations with pre-mixed water/AR-AFF foam (Alcohol Resistance-Aqueous Film Forming Foam), that are driven by a pressurized gas, or 2 foam monitors that are driven by pumps, if such exist in advance on the existing installation. The foam installations and the foam monitors shall be functional at least down to -10^{o} and there shall be a clear operating manual at the foam installations and the foam monitors.

b. For helidecks with a D value up to 15 m the total amount of water shall be at least 500 litres with a draining capacity of 2 x 115 l/min.

c. For helidecks with a D value from 15 m to 24 m the total amount of water shall be at least 1,000 litres with a draining capacity of 2 x 230 l/min.

d. One carbondioxide extinguisher of at least 10 kg with an extension device on the nozzle.

38.5 Status lights shall be put in on unmanned helidecks where there may be matters endangering the helicopter or the crew and the passengers and these circumstances cannot be detected from another locality from where the pilot can be notified of the actual situation.

38.5.1 Status lights shall have an intensity of at least 3,250 candela between an angle from 5^{o} to 10^{o}. From a vertical angle of 10^{o} up to 90^{o} the status light shall have an intensity of at least 1,000 candela. The status light shall be an integrated part of the entire safety system and it must be possible to activate it both automatically and manually.

39. Platforms to be used in connection with hoist operations on wind turbines in daylight

39.1 Design of platform

39.1.1 A four-sided platform shall have a size of at least 4 x 4 m. A circular platform shall have a diameter of at least 5 m.

39.1.2 The platform shall be made so that it generates as little turbulence as possible.

39.1.3 The platform deck shall be capable of carrying a mass that is twice the expected maximum weight.

39.1.4 The platform deck shall have a friction coefficient of at least 0.4.

39.1.5 The platform shall be surrounded by a 1.5 m high railing which will allow the air to flow through. The railing shall include hand rails and must not make it possible for the hoist hook to get jammed. Further it shall ensure that small items do not get blown away from the platform by the down-wash from the helicopter rotors.

39.1.6 The platform must not be designed so that a helicopter unintentionally can lock up with the construction.

39.1.7 The circumstances regarding discharge of static electricity from the helicopter must be taken into consideration.

39.1.8 The platform shall be located so that when the hoist (helicopter crane) is placed over the centre of the platform, there is a minimum clearance between main rotor and turbine wing in vertical position of 4 m for the dimensioned helicopter type.

39.2 Obstacle freedom

Within a distance of 1.5 m from the railing there must not be marking equipment, antennas, anemometers or the like above the top of the railing. From the distance of 1.5 m there must not be items penetrating a surface with a positive gradient of 100% up to 3 m above the platform level. From here the surface is horizontal up to the mill's rotor plane.

39.3 Marking

The platform deck shall be painted yellow. The railing shall be clearly marked with red, orange or red/white colours.

39.4 Possibilities of communication/ signal installations

39.4.1 Persons on the platform shall have the possibility of communicating with the helicopter.

39.4.2 There shall be a signal system with a green lamp indicating whether the turbine is ready for a hoist operation.

39.4.3 An aiming system shall be established making it possible for the helicopter pilot to determine his position in relation to the platform "over one" (sighting point marking) or similar markings.

39.5 Operational conditions

39.5.1 It is a condition that the wind turbine is normally placed abeam of the wind and locked during hoist operations. The helicopter shall have the wing in ahead.

39.5.2 The turbine rotor shall whenever possible be locked in "Y" position during hoist operations.

39.5.3 It shall be possible to switch off powerful obstacle lightning on the turbine during hoist-operations.

39.5.4 It is a condition for all requirements in Part 38 that hoist operations are only carried out in daylight.

39.6 Operating organisation

39.6.1 The owner of a platform to be used for hoist operations shall establish an operating organisation that shall attend to the operation and maintenance of the platform. An accountable manager for this organisation must be appointed.

39.6.2 An operations manual shall be prepared for the platform, including at least the following items:

a. Organisation and responsibilities.

b. Description of the installation, including drawings.

c. Operational and maintenance requirements.

d. Instructions for actions in connection with errors on the platform and its systems.

e. Communication with the helicopter operator.

f. Copy of the platform approval.

40. Colours

The colours mentioned in this BL shall meet the CIE standards described in ICAO Annex 14, Volume I, Appendix 1.

41. Revocation

The Civil Aviation Administration - Denmark may revoke a technical approval, cf. paragraph 5.1, if the conditions for obtaining the technical approval are no longer met, and the conditions are not corrected within a time limit set by the Civil Aviation Administration - Denmark.

42. Exemption

The Civil Aviation Administration - Denmark may in particularly exceptional cases grant exemption form the regulations laid down in this BL if it is deemed compatible with the considerations on which the regulations in question are based.

43. Punishment

43.1 Violation of the regulations in this BL will be punished with a fine.

43.2 Criminal liability for violations may be imposed on companies etc. (legal persons) under the rules of Chapter 5 of the Danish Criminal Code, cf. subsection 14 of § 149 of the Danish Air Navigation Act.

44. Implementation and provisional regulations

44.1 This BL comes into force on 1 January 2007.

44.2 Already approved helidecks shall meet the regulations in this BL not later than 1 July 2007, cf., however, paragraph 44.22.1.

44.2.1 The regulations in Parts 13 and 18 shall be met not later than 1 January 2010 unless major changes are made to the helideck in which case the regulations shall be met in connection with these changes.

44.3 At the same time BL 3-5, 3 edition of 25 June 1991 is repealed.

Civil Aviation Administration - Denmark, 18 December 2006

Kurt Lykstoft Larsen

/ Per Veingberg

Figure 1

Obstacle Limitation (Single Main Rotor and Side by Side Main Rotor Helicopters) showing position of Aiming Circle

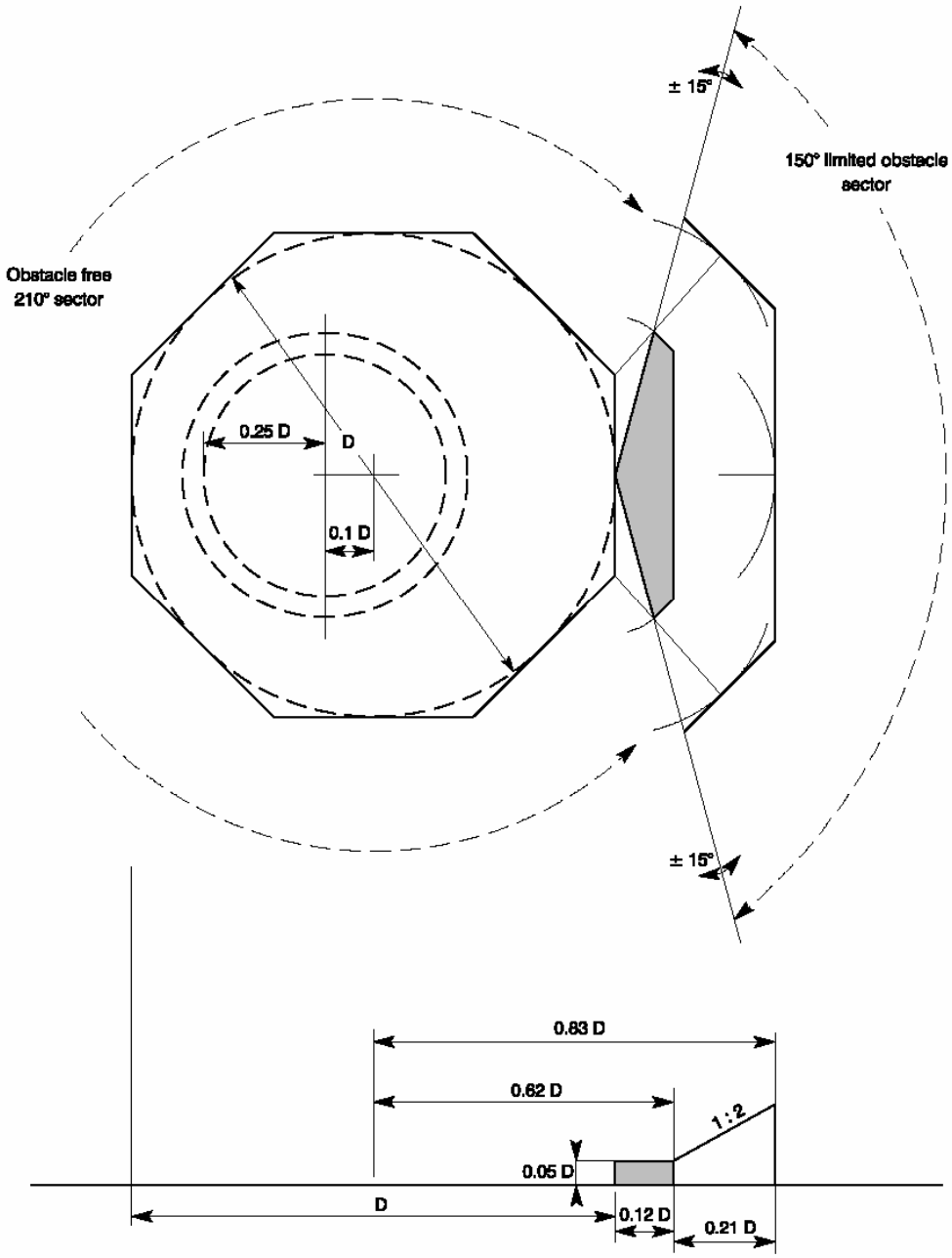


Figure 2

Fig. 2

Helideck obstacle-free sector

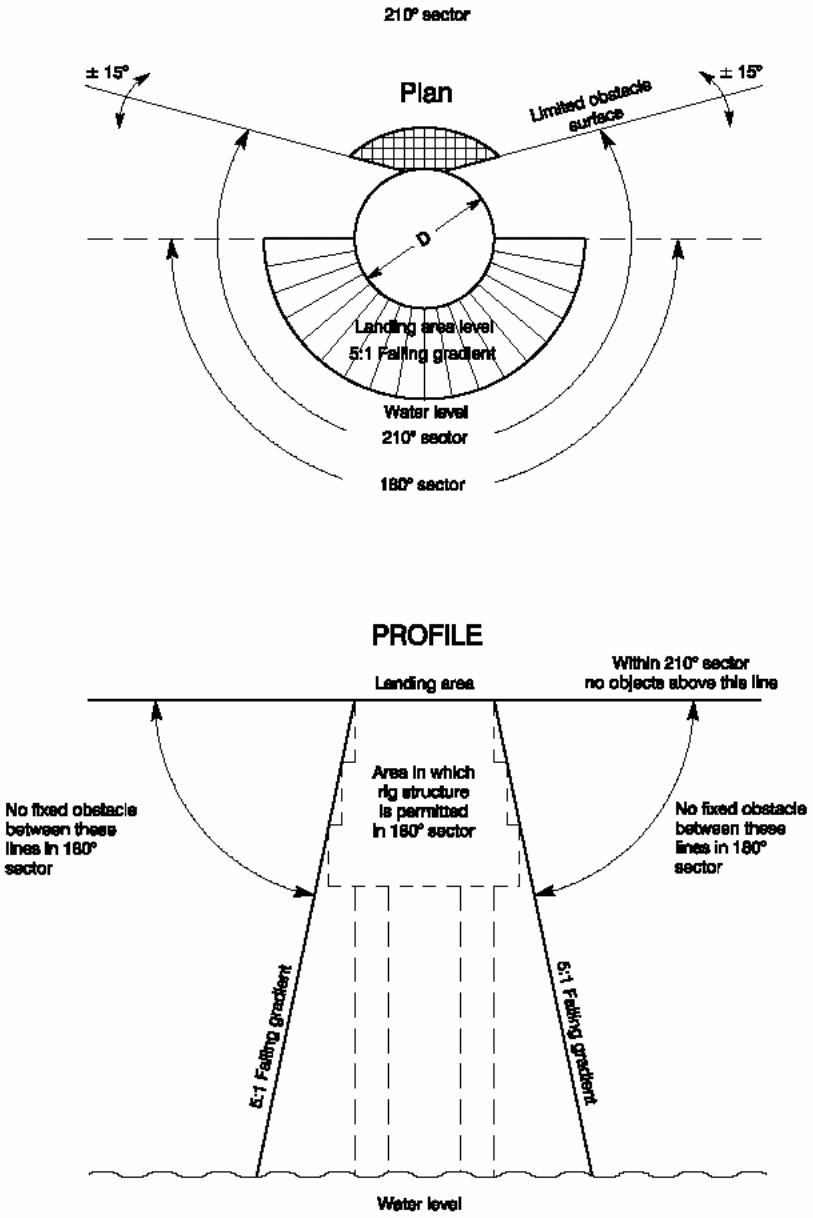


Figure 3

Markings (Single Main Rotor Helicopters)

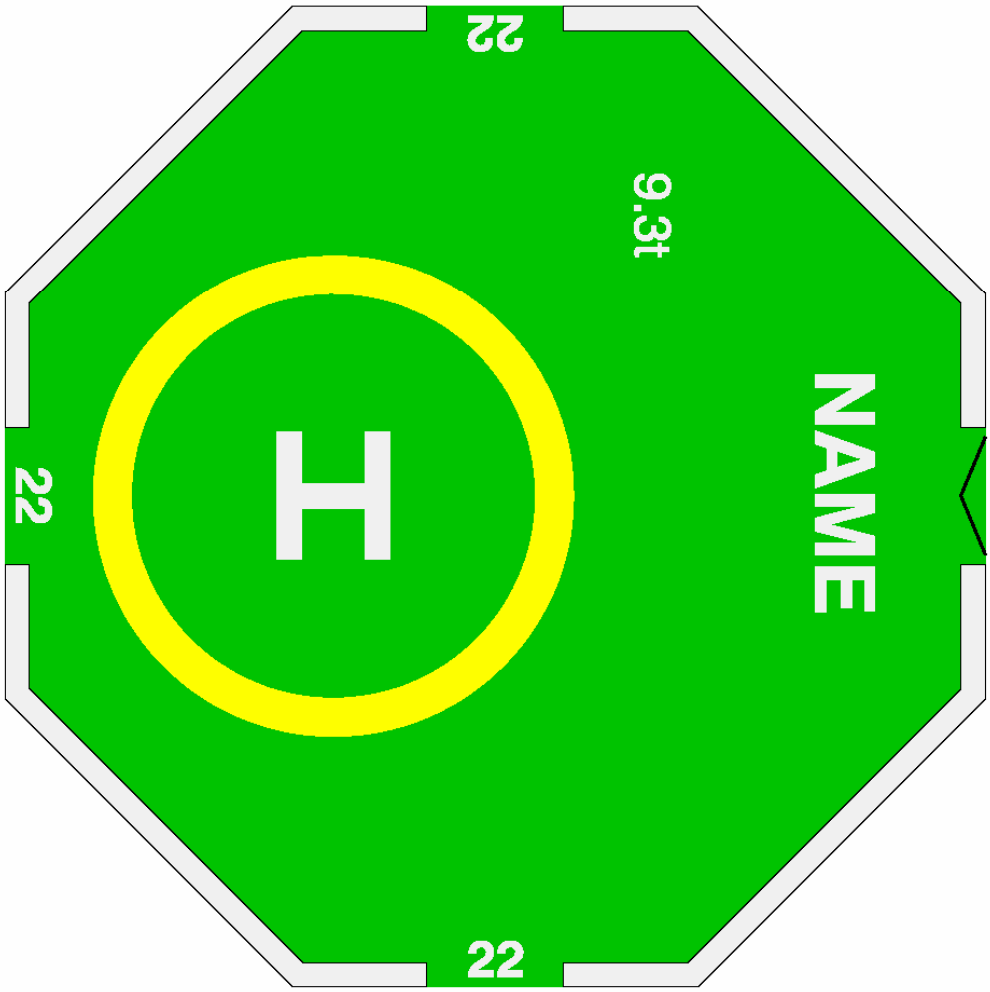


Figure 4

Helideck D Value and Obstacle-free Marking

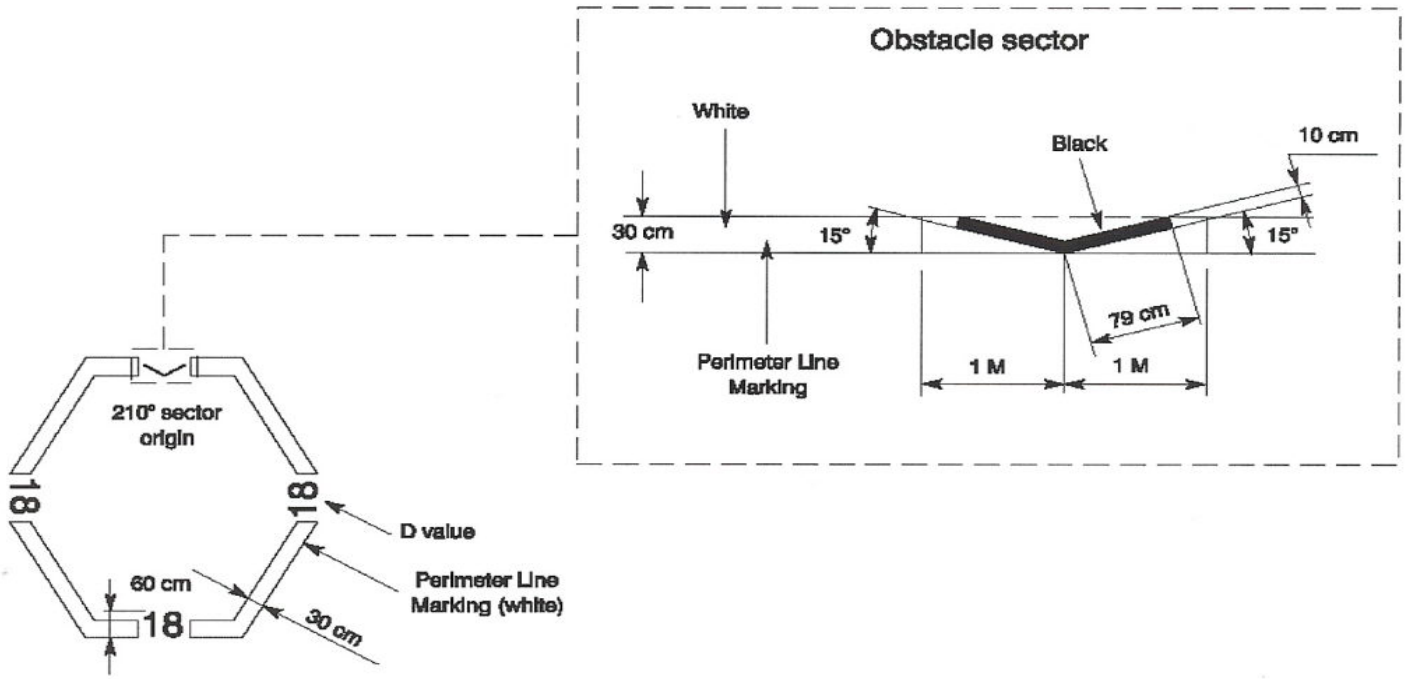


Fig. 8

Aiming Circle Marking

(Aiming Circle to be painted yellow)

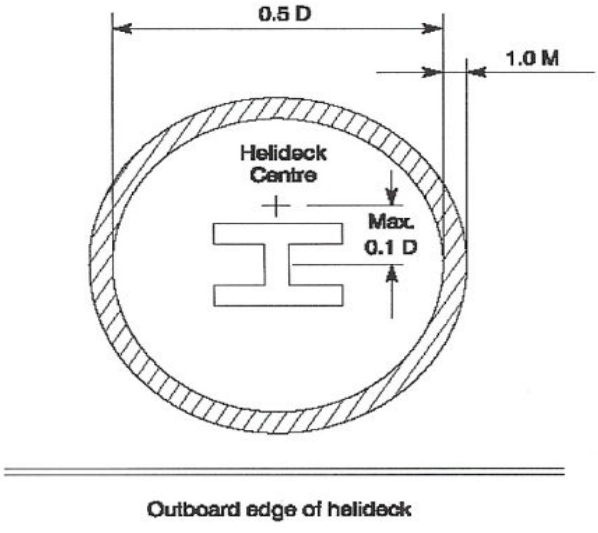


Fig. 9

Dimensions of "H"

("H" to be painted white)

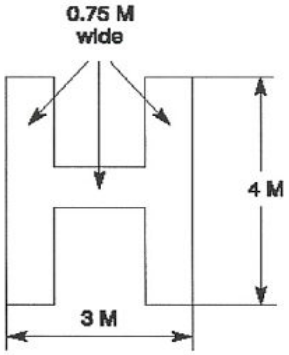
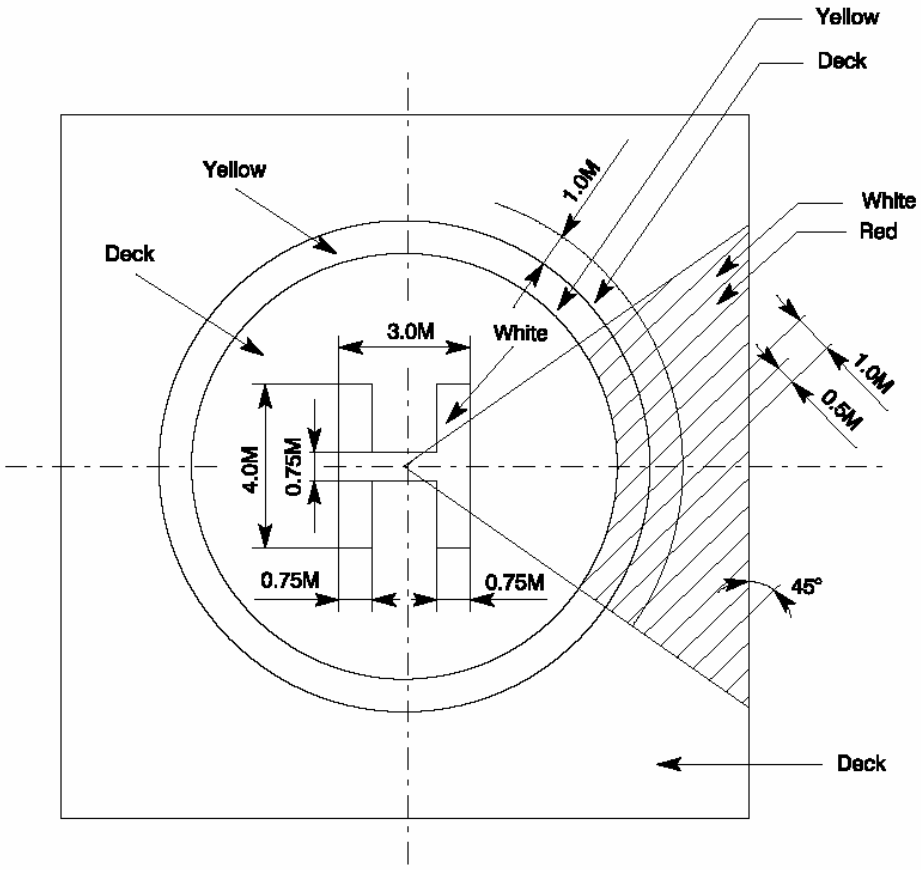


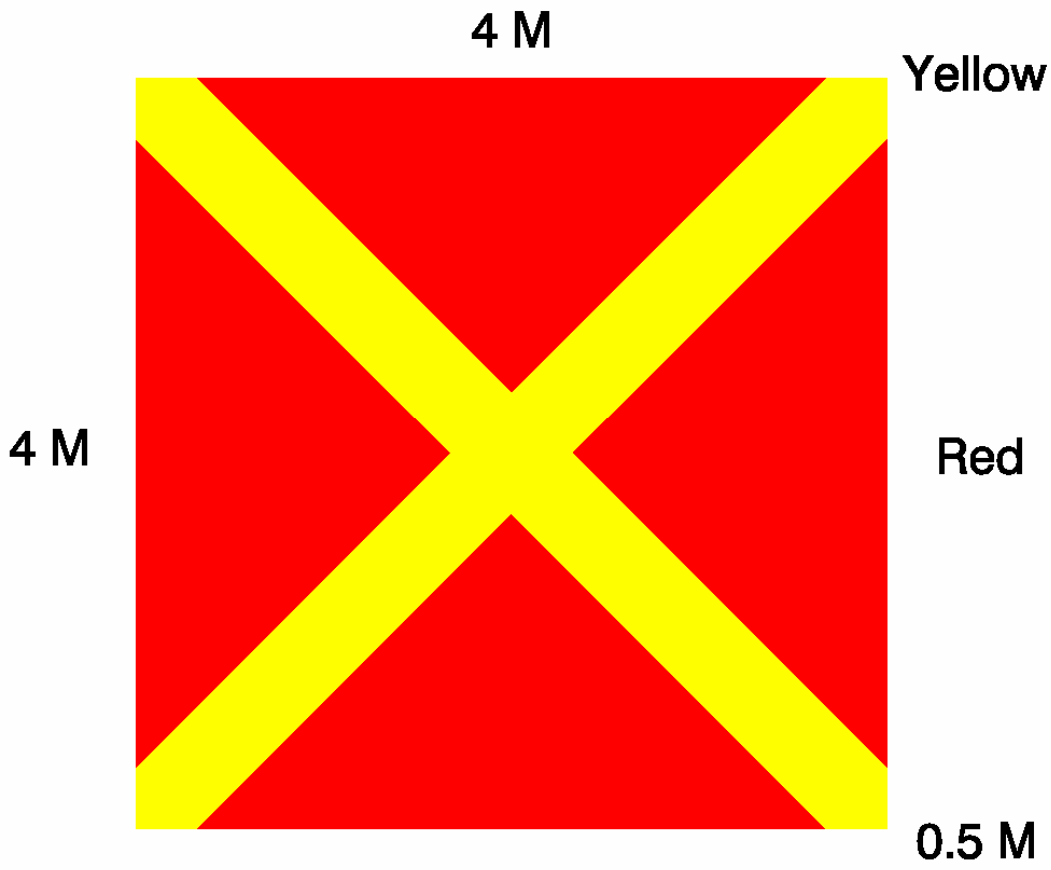
Figure 5



Specification for the layout of
prohibited landing heading segments on helidecks

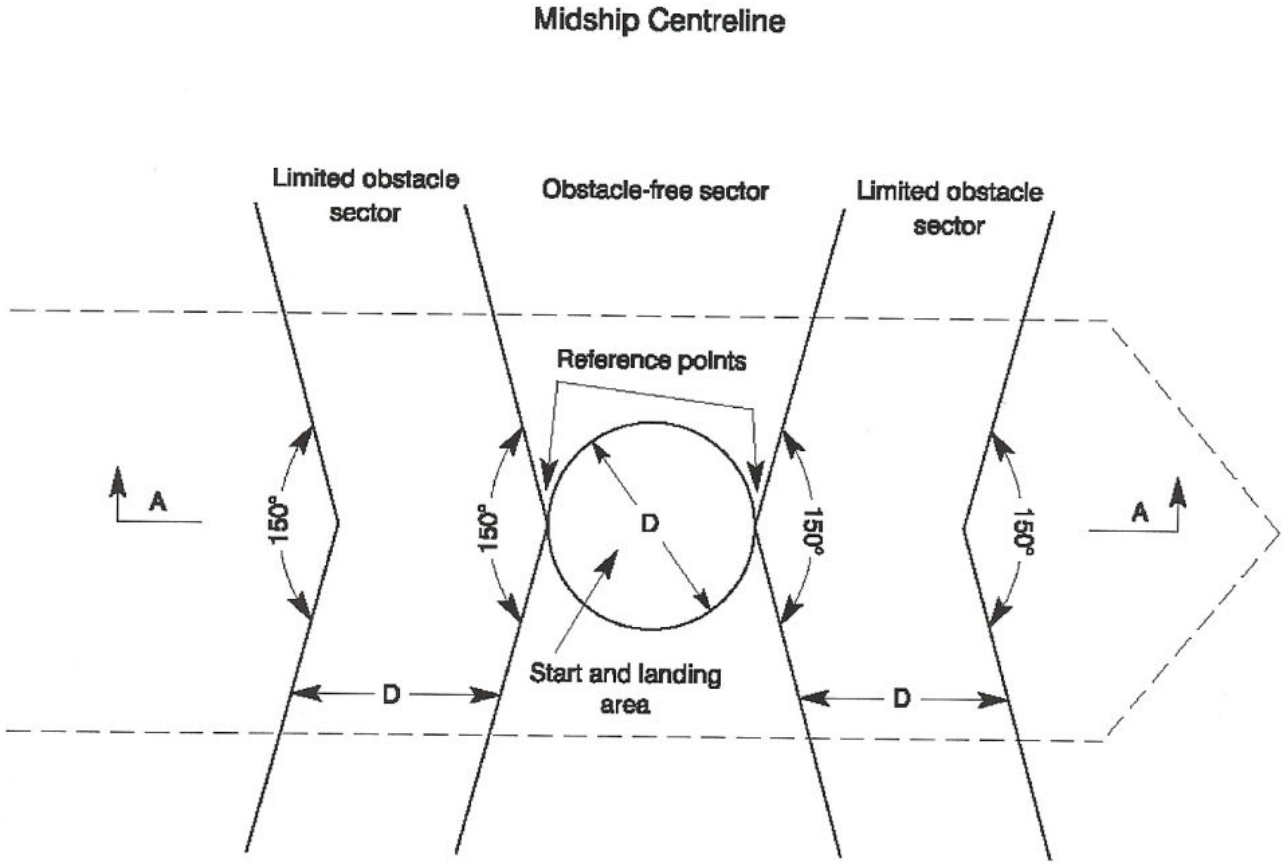
Example of Prohibited Landing Heading Marking

Figure 6



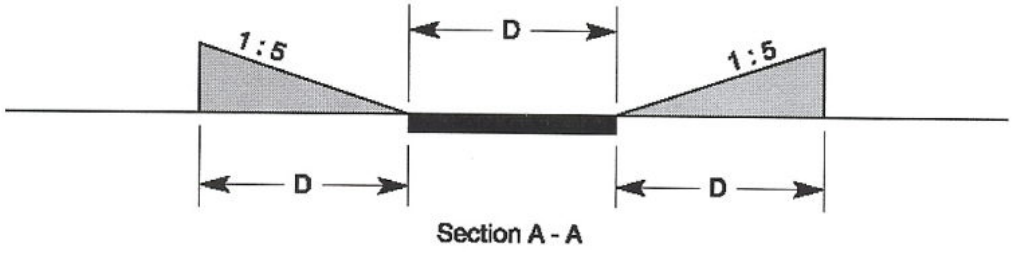
Landing on Installation / Vessel Prohibited

Figure 7



Plan view

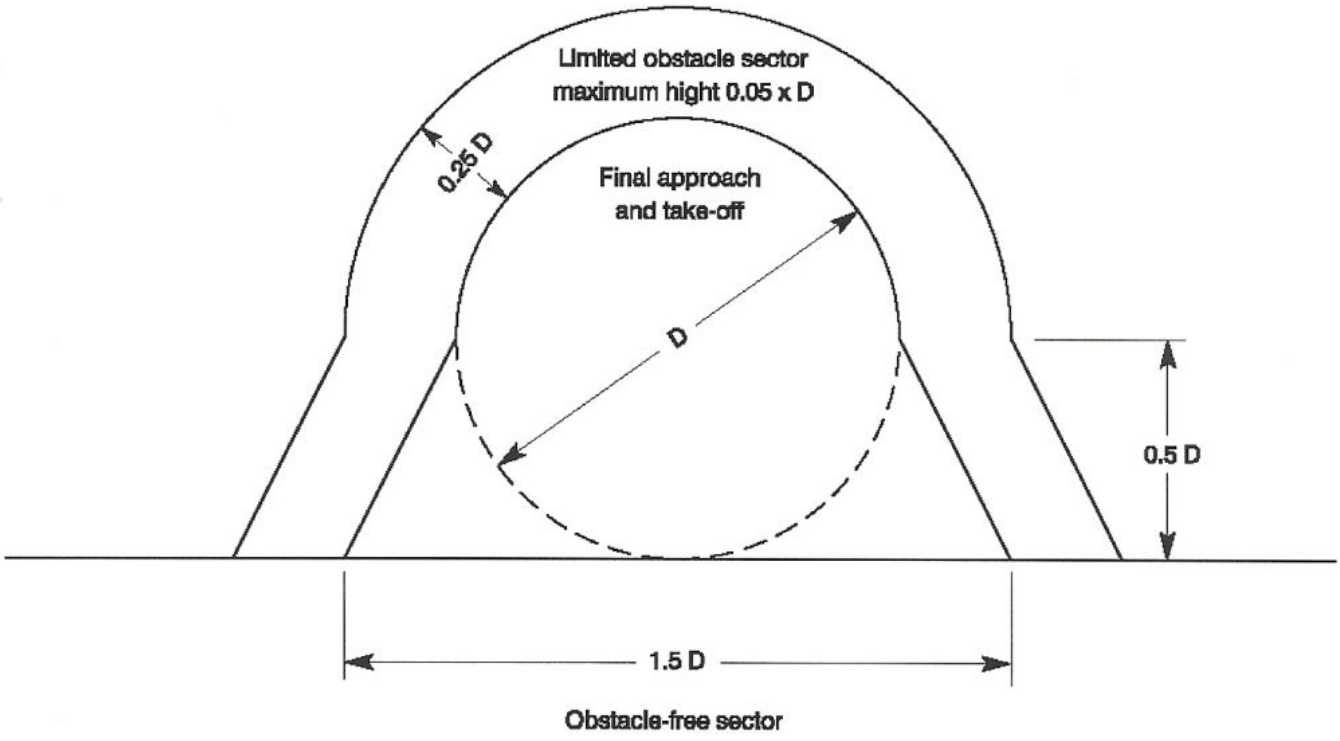
D = Helicopter largest over-all dimension



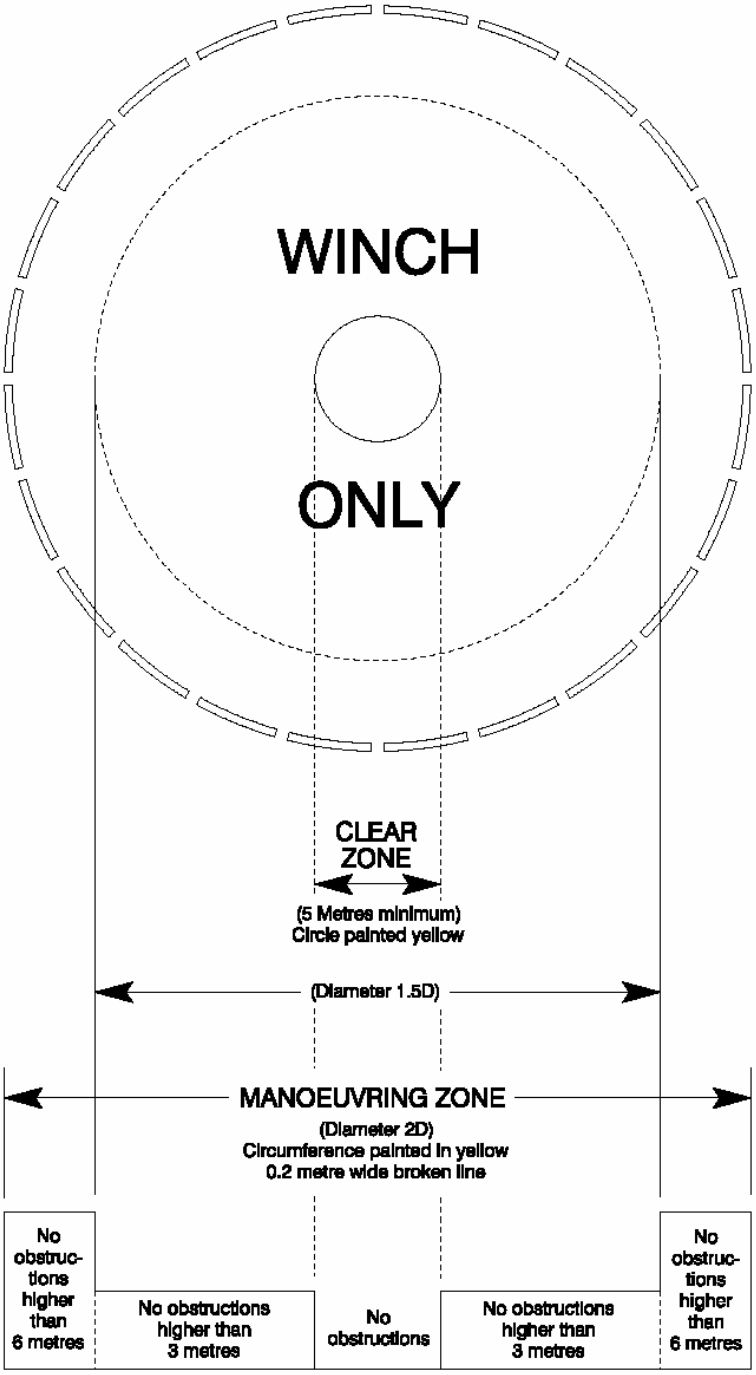
Section A - A

Figure 8

Ship-side: Non-Purpose Built Landing Area



Winching Area



WINCH ONLY to be marked in white so as to be easily visible to the helicopter pilot