

SL No.	ICAO Annex 14 Vol. II		Draft ANO 14 Vol. II		Remarks
	Article	Context	Article	Context	
1.	2.7.2	Recommendation — The level of protection normally available at a heliport should be expressed in terms of the category of the rescue and firefighting service as described in 6.2 and in accordance with the types and amounts of extinguishing agents normally available at the heliport.	2.7.2	Recommendation — The level of protection normally available at a heliport shall be expressed in terms of the category of the rescue and firefighting service as described in 6.2 and in accordance with the types and amounts of extinguishing agents normally available at the heliport.	
2.	2.7.4	Recommendation — A change should be expressed in terms of the new category of the rescue and firefighting service available at the heliport.	2.7.4	Recommendation — A change shall be expressed in terms of the new category of the rescue and firefighting service available at the heliport.	
3.	3.1.5	Recommendation — When the FATO is solid, the slope should not: a) except as provided in b) or c) below, exceed 2 per cent in any direction; b) when the FATO is elongated and intended to be used by helicopters operated in performance class 1, exceed 3 per cent overall, or have a local slope exceeding 5 per cent; and c) when the FATO is elongated and intended to be used solely by helicopters operated in performance class 2 or 3,	3.1.5	Recommendation — When the FATO is solid, the slope shall not: a) except as provided in b) or c) below, exceed 2 per cent in any direction; b) when the FATO is elongated and intended to be used by helicopters operated in performance class 1, exceed 3 per cent overall, or have a local slope exceeding 5 per cent; and c) when the FATO is elongated and intended to be used solely by helicopters	

		exceed 3 per cent overall, or have a local slope exceeding 7 per cent.		operated in performance class 2 or 3, exceed 3 per cent overall, or have a local slope exceeding 7 per cent.	
4.	3.1.6	Recommendation — The FATO should be located so as to minimize the influence of the surrounding environment, including turbulence, which could have an adverse impact on helicopter operations.	3.1.6	Recommendation — The FATO shall be located so as to minimize the influence of the surrounding environment, including turbulence, which could have an adverse impact on helicopter operations.	
5.	3.1.12	Recommendation — When solid, the slope of the safety area should not exceed an upward slope of 4 per cent outwards from the edge of the FATO.	3.1.12	Recommendation — When solid, the slope of the safety area shall not exceed an upward slope of 4 per cent outwards from the edge of the FATO.	
6.	3.1.14	Recommendation — A heliport should be provided with at least two protected side slopes, rising at 45 degrees outward from the edge of the safety area and extending to a distance of 10 m.	3.1.14	Recommendation — A heliport shall be provided with at least two protected side slopes, rising at 45 degrees outward from the edge of the safety area and extending to a distance of 10 m.	
7.	3.1.18	Recommendation — The width of a helicopter clearway should not be less than that of the FATO and associated safety area (see Figure 3-1).	3.1.18	Recommendation — The width of a helicopter clearway shall not be less than that of the FATO and associated safety area (see Figure 3-1).	
8.	3.1.19	Recommendation — When solid, the ground in a helicopter clearway should not project above a plane having an overall	3.1.19	Recommendation — When solid, the ground in a helicopter clearway shall not project above a plane having an overall upward slope of	

		upward slope of 3 per cent, or having a local upward slope exceeding 5 per cent, the lower limit of this plane being a horizontal line which is located on the periphery of the FATO.		3 per cent, or having a local upward slope exceeding 5 per cent, the lower limit of this plane being a horizontal line which is located on the periphery of the FATO.	
9.	3.1.20	Recommendation — An object situated in a helicopter clearway, which may endanger helicopters in the air, should be regarded as an obstacle and should be removed.	3.1.20	Recommendation — An object situated in a helicopter clearway, which may endanger helicopters in the air, shall be regarded as an obstacle and shall be removed.	
10.	3.1.26	<p>Recommendation — The slope on a TLOF should not:</p> <p>a) except as provided in b) or c) below, exceed 2 per cent in any direction;</p> <p>b) when the TLOF is elongated and intended to be used by helicopters operated in performance class 1, exceed 3 per cent overall, or have a local slope exceeding 5 per cent; and</p> <p>c) when the TLOF is elongated and intended to be used solely by helicopters operated in performance class 2 or 3, exceed 3 per cent overall, or have a local slope exceeding 7 per cent.</p>	3.1.26	<p>Recommendation — The slope on a TLOF shall not:</p> <p>a) except as provided in b) or c) below, exceed 2 per cent in any direction;</p> <p>b) when the TLOF is elongated and intended to be used by helicopters operated in performance class 1, exceed 3 per cent overall, or have a local slope exceeding 5 per cent; and</p> <p>c) when the TLOF is elongated and intended to be used solely by helicopters operated in performance class 2 or 3, exceed 3 per cent overall, or have a local slope exceeding 7 per cent.</p>	

11.	3.1.27	<p>Recommendation — When a TLOF is within a FATO, it should be:</p> <p>a) centred on the FATO; or</p> <p>b) for an elongated FATO, centred on the longitudinal axis of the FATO.</p>	3.1.27	<p>Recommendation — When a TLOF is within a FATO, it shall be:</p> <p>a) centred on the FATO; or</p> <p>b) for an elongated FATO, centred on the longitudinal axis of the FATO.</p>	
12.	3.1.30	<p>Recommendation — Where an elongated performance class 1 FATO/TLOF contains more than one TDPM, measures should be in place to ensure that only one can be used at a time.</p>	3.1.30	<p>Recommendation — Where an elongated performance class 1 FATO/TLOF contains more than one TDPM, measures shall be in place to ensure that only one can be used at a time.</p>	
13.	3.1.31	<p>Recommendation — Where alternative TDPMs are provided, they should be placed to ensure containment of the undercarriage within the TLOF and the helicopter within the FATO.</p>	3.1.31	<p>Recommendation — Where alternative TDPMs are provided, they shall be placed to ensure containment of the undercarriage within the TLOF and the helicopter within the FATO.</p>	
14.	3.1.35	<p>Recommendation — The transverse slope of a taxiway should not exceed 2 per cent and the longitudinal slope should not exceed 3 per cent.</p>	3.1.35	<p>Recommendation — The transverse slope of a taxiway shall not exceed 2 per cent and the longitudinal slope shall not exceed 3 per cent.</p>	
15.	3.1.38	<p>Recommendation — When solid and collocated with a taxiway, the taxi-route should not exceed an upward transverse slope of 4 per cent outwards from the</p>	3.1.38	<p>Recommendation — When solid and collocated with a taxiway, the taxi-route shall not exceed an upward transverse slope of 4 per cent outwards from the</p>	

		edge of the taxiway.		edge of the taxiway.	
16.	3.1.43	Recommendation — When not collocated with a taxiway, the slopes of the surface of an air taxi-route should not exceed the slope landing limitations of the helicopters the taxi-route is intended to serve. In any event, the transverse slope should not exceed 10 per cent and the longitudinal slope should not exceed 7 per cent.	3.1.43	Recommendation — When not collocated with a taxiway, the slopes of the surface of an air taxi-route shall not exceed the slope landing limitations of the helicopters the taxi-route is intended to serve. In any event, the transverse slope shall not exceed 10 per cent and the longitudinal slope shall not exceed 7 per cent.	
17.	3.1.46	Recommendation — The mean slope of a helicopter stand in any direction should not exceed 2 per cent.	3.1.46	Recommendation — The mean slope of a helicopter stand in any direction shall not exceed 2 per cent.	
18.	3.1.55	Recommendation — When solid, the slope of a protection area should not exceed an upward slope of 4 per cent outwards from the edge of the stand.	3.1.55	Recommendation — When solid, the slope of a protection area shall not exceed an upward slope of 4 per cent outwards from the edge of the stand.	
19.	3.1.57	Recommendation — A FATO should not be located: a) near taxiway intersections or holding points where jet engine efflux is likely to cause high turbulence; or b) near areas where aeroplane vortex wake generation is likely to exist.	3.1.57	Recommendation — A FATO shall not be located: a) near taxiway intersections or holding points where jet engine efflux is likely to cause high turbulence; or b) near areas where aeroplane vortex wake generation is likely to exist.	
20.	3.2.5	Recommendation — For	3.2.5	Recommendation —	

		helicopters with a MTOM of 3 175 kg or less, the TLOF should be of sufficient size to contain an area within which can be accommodated a circle of diameter of not less than 1 D of the largest helicopter the helideck is intended to serve.		For helicopters with a MTOM of 3 175 kg or less, the TLOF shall be of sufficient size to contain an area within which can be accommodated a circle of diameter of not less than 1 D of the largest helicopter the helideck is intended to serve.	
21.	3.2.7	Recommendation — The FATO should be located so as to avoid, as far as is practicable, the influence of environmental effects, including turbulence, over the FATO, which could have an adverse impact on helicopter operations.	3.2.7	Recommendation — The FATO shall be located so as to avoid, as far as is practicable, the influence of environmental effects, including turbulence, over the FATO, which could have an adverse impact on helicopter operations.	
22.	3.2.12	Recommendation — For any TLOF 1 D or greater and any TLOF designed for use by helicopters having a D-value of greater than 16.0 m, objects installed in the obstacle-free sector whose function requires them to be located on the edge of the TLOF should be as low as possible and in any case not exceed a height of 15 cm.	3.2.12	Recommendation — For any TLOF 1 D or greater and any TLOF designed for use by helicopters having a D-value of greater than 16.0 m, objects installed in the obstacle-free sector whose function requires them to be located on the edge of the TLOF shall be as low as possible and in any case not exceed a height of 15 cm.	
23.	3.3.11	Recommendation — The FATO should be located so as to avoid, as far as is practicable, the influence of environmental effects, including turbulence,	3.3.11	Recommendation — The FATO shall be located so as to avoid, as far as is practicable, the influence of environmental effects, including turbulence,	

		over the FATO, which could have an adverse impact on helicopter operations.		over the FATO, which could have an adverse impact on helicopter operations.	
24.	3.3.14	Recommendation — For any TLOF 1 D or greater and any TLOF designed for use by helicopters having a D-value of greater than 16.0 m, objects installed in the obstacle-free sector whose function requires them to be located on the edge of the TLOF should be as low as possible and in any case not exceed a height of 15 cm.	3.3.14	Recommendation — For any TLOF 1 D or greater and any TLOF designed for use by helicopters having a D-value of greater than 16.0 m, objects installed in the obstacle-free sector whose function requires them to be located on the edge of the TLOF shall be as low as possible and in any case not exceed a height of 15 cm.	
25.	4.2.6	Recommendation — Existing objects above any of the surfaces in 4.2.1 and 4.2.2 should, as far as practicable, be removed except when the object is shielded by an existing immovable object or after an aeronautical study approved by an appropriate authority determines that the object will not adversely affect the safety or significantly affect the regularity of operations of helicopters. Note.— The application of curved approach or take-off climb surfaces as specified in 4.1.5 or 4.1.18 may alleviate the	4.2.6	Recommendation — Existing objects above any of the surfaces in 4.2.1 and 4.2.2 shall, as far as practicable, be removed except when the object is shielded by an existing immovable object or after an aeronautical study approved by an appropriate authority determines that the object will not adversely affect the safety or significantly affect the regularity of operations of helicopters. Note.— The application of curved approach or take-off climb surfaces as specified in 4.1.5 or 4.1.18 may alleviate the	

		problems created by objects infringing these surfaces.		the problems created by objects infringing these surfaces.	
26.	4.2.8	<p>Recommendation — A surface-level heliport should have at least two approach and take-off climb surfaces to avoid downwind conditions, minimize crosswind conditions and permit for a balked landing.</p> <p>Note.— See the Heliport Manual (Doc 9261) for guidance.</p>	4.2.8	<p>Recommendation — A surface-level heliport shall have at least two approach and take-off climb surfaces to avoid downwind conditions, minimize crosswind conditions and permit for a balked landing.</p> <p>Note.— See the Heliport Manual (Doc 9261) for guidance.</p>	
27.	4.2.11	<p>Recommendation — An elevated heliport should have at least two approach and take-off climb surfaces to avoid downwind conditions, minimize crosswind conditions and permit for a balked landing.</p> <p>Note.— See the Heliport Manual (Doc 9261) for guidance.</p>	4.2.11	<p>Recommendation — An elevated heliport shall have at least two approach and take-off climb surfaces to avoid downwind conditions, minimize crosswind conditions and permit for a balked landing.</p> <p>Note.— See the Heliport Manual (Doc 9261) for guidance.</p>	
28.	5.1.1.3	<p>Recommendation — Where a TLOF and/or FATO may be subject to a disturbed airflow, additional wind direction indicators located close to the area should be provided to indicate the surface wind on the area.</p> <p>Note.— Guidance on the location of wind direction indicators is given in the Heliport Manual (Doc</p>	5.1.1.3	<p>Recommendation — Where a TLOF and/or FATO may be subject to a disturbed airflow, additional wind direction indicators located close to the area shall be provided to indicate the surface wind on the area.</p> <p>Note.— Guidance on the location of wind direction indicators is given in the Heliport</p>	

		9261).		Manual (Doc 9261).	
29.	5.1.1.5	Recommendation — A wind direction indicator should be a truncated cone made of lightweight fabric and should have the dimensions described in this article.	5.1.1.5	Recommendation — A wind direction indicator shall be a truncated cone made of lightweight fabric and shall have the dimensions described in this article.	
30.	5.1.1.6	Recommendation — The colour of the wind direction indicator should be so selected as to make it clearly visible and understandable from a height of at least 200 m (650 ft) above the heliport, having regard to background. Where practicable, a single colour, preferably white or orange, should be used. Where a combination of two colours is required to give adequate conspicuity against changing backgrounds, they should preferably be orange and white, red and white, or black and white, and should be arranged in five alternate bands the first and last band being the darker colour.	5.1.1.6	Recommendation — The colour of the wind direction indicator shall be so selected as to make it clearly visible and understandable from a height of at least 200 m (650 ft) above the heliport, having regard to background. Where practicable, a single colour, preferably white or orange, shall be used. Where a combination of two colours is required to give adequate conspicuity against changing backgrounds, they shall preferably be orange and white, red and white, or black and white, and shall be arranged in five alternate bands the first and last band being the darker colour.	
31.	5.2.2.8	Recommendation — On a helideck or a shipboard heliport where the D-value is 16.0 m or larger, the size of the heliport identification H marking should have a height of 4	5.2.2.8	Recommendation — On a helideck or a shipboard heliport where the D-value is 16.0 m or larger, the size of the heliport identification H marking shall have a	

		m with an overall width not exceeding 3 m and a stroke width not exceeding 0.75 m. Where the D-value is less than 16.0 m, the size of the heliport identification H marking should have a height of 3 m with an overall width not exceeding 2.25 m and a stroke width not exceeding 0.5 m.		height of 4 m with an overall width not exceeding 3 m and a stroke width not exceeding 0.75 m. Where the D-value is less than 16.0 m, the size of the heliport identification H marking shall have a height of 3 m with an overall width not exceeding 2.25 m and a stroke width not exceeding 0.5 m.	
32.	5.2.3.2	Recommendation — A maximum allowable mass marking should be displayed at a surface-level heliport.	5.2.3.2	Recommendation — A maximum allowable mass marking shall be displayed at a surface-level heliport.	
33.	5.2.3.3	Recommendation — A maximum allowable mass marking should be located within the TLOF or FATO and so arranged as to be readable from the preferred final approach direction.	5.2.3.3	Recommendation — A maximum allowable mass marking shall be located within the TLOF or FATO and so arranged as to be readable from the preferred final approach direction.	
34.	5.2.3.6	Recommendation — The maximum allowable mass should be expressed to the nearest 100 kg. The marking should be presented to one decimal place and rounded to the nearest 100 kg followed by the letter “t”. Where States use mass in pounds, the maximum allowable mass marking should indicate the allowable helicopter mass in hundreds of pounds rounded to the	5.2.3.6	Recommendation — The maximum allowable mass shall be expressed to the nearest 100 kg. The marking shall be presented to one decimal place and rounded to the nearest 100 kg followed by the letter “t”. Where States use mass in pounds, the maximum allowable mass marking shall indicate the allowable helicopter mass in	

		nearest 100 lb.		hundreds of pounds rounded to the nearest 100 lb.	
35.	5.2.3.7	Recommendation — When the maximum allowable mass is expressed to 100 kg, the decimal place should be preceded with a decimal point marked with a 30 cm square.	5.2.3.7	Recommendation — When the maximum allowable mass is expressed to 100 kg, the decimal place shall be preceded with a decimal point marked with a 30 cm square.	
36.	5.2.3.8	Recommendation — The numbers and the letter of the marking should have a colour contrasting with the background and should be in the form and proportion shown in Figure 5 -5 for a D-value of more than 30 m. For a D-value between 15 m and 30 m, the height of the numbers and the letter of the marking should be a minimum of 90 cm, and for a D-value of less than 15 m, the height of the numbers and the letter of the marking should be a minimum of 60 cm, each with a proportional reduction in width and thickness.	5.2.3.8	Recommendation — The numbers and the letter of the marking shall have a colour contrasting with the background and shall be in the form and proportion shown in Figure 5 -5 for a D-value of more than 30 m. For a D-value between 15 m and 30 m, the height of the numbers and the letter of the marking shall be a minimum of 90 cm, and for a D-value of less than 15 m, the height of the numbers and the letter of the marking shall be a minimum of 60 cm, each with a proportional reduction in width and thickness.	
37.	5.2.3.9	Recommendation — The numbers and the letter of the marking should have a colour contrasting with the background and should be in the form and proportion shown in Figure 5 -5.	5.2.3.9	Recommendation — The numbers and the letter of the marking shall have a colour contrasting with the background and shall be in the form and proportion shown in Figure 5 -5.	
38.	5.2.4.4	Recommendation —	5.2.4.4	Recommendation —	

		Where there is more than one approach direction, additional D-value markings should be provided such that at least one D-value marking is readable from the final approach direction. For a non-purpose-built heliport located on a ship's side, D-value markings should be provided on the perimeter of the D circle at the 2 o'clock, 10 o'clock and 12 o'clock positions when viewed from the side of the ship facing towards the centre line.		Where there is more than one approach direction, additional D-value markings shall be provided such that at least one D-value marking is readable from the final approach direction. For a non-purpose-built heliport located on a ship's side, D-value markings shall be provided on the perimeter of the D circle at the 2 o'clock, 10 o'clock and 12 o'clock positions when viewed from the side of the ship facing towards the centre line.	
39.	5.2.4.6	Recommendation — The numbers of the marking should have a colour contrasting with the background and should be in the form and proportion shown in Figure 5-5 for a D-value of more than 30 m. For a D-value between 15 m and 30 m, the height of the numbers of the marking should be a minimum of 90 cm, and for a D-value of less than 15 m, the height of the numbers of the marking should be a minimum of 60 cm, each with a proportional reduction in width and thickness.	5.2.4.6	Recommendation — The numbers of the marking shall have a colour contrasting with the background and shall be in the form and proportion shown in Figure 5-5 for a D-value of more than 30 m. For a D-value between 15 m and 30 m, the height of the numbers of the marking shall be a minimum of 90 cm, and for a D-value of less than 15 m, the height of the numbers of the marking shall be a minimum of 60 cm, each with a proportional reduction in width and thickness.	
40.	5.2.5.8	Recommendation — FATO perimeter markers	5.2.5.8	Recommendation — FATO perimeter	

		should be a single colour, orange or red, or two contrasting colours, orange and white or, alternatively, red and white should be used except where such colours would merge with the background.		markers shall be a single colour, orange or red, or two contrasting colours, orange and white or, alternatively, red and white shall be used except where such colours would merge with the background.	
41.	5.2.6.1	Recommendation — A FATO designation marking should be provided at a heliport where it is necessary to designate the FATO to the pilot.	5.2.6.1	Recommendation — A FATO designation marking shall be provided at a heliport where it is necessary to designate the FATO to the pilot.	
42.	5.2.7.1	Recommendation — An aiming point marking should be provided at a heliport where it is necessary for a pilot to make an approach to a particular point above a FATO before proceeding to a TLOF.	5.2.7.1	Recommendation — An aiming point marking shall be provided at a heliport where it is necessary for a pilot to make an approach to a particular point above a FATO before proceeding to a TLOF.	
43.	5.2.10.1	Recommendation — A heliport name marking should be provided at a heliport and helideck where there is insufficient alternative means of visual identification.	5.2.10.1	Recommendation — A heliport name marking shall be provided at a heliport and helideck where there is insufficient alternative means of visual identification.	
44.	5.2.10.2	Recommendation — Where a limited obstacle sector (LOS) exists on a helideck, the marking should be located on that side of the heliport identification marking. For a non-purpose-built heliport located on a	5.2.10.2	Recommendation — Where a limited obstacle sector (LOS) exists on a helideck, the marking shall be located on that side of the heliport identification marking. For a non-purpose-built	

		ship's side, the marking should be located on the inboard side of the heliport identification marking in the area between the TLOF perimeter marking and the boundary of the LOS.		heliport located on a ship's side, the marking shall be located on the inboard side of the heliport identification marking in the area between the TLOF perimeter marking and the boundary of the LOS.	
45.	5.2.10.4	Recommendation — A heliport name marking intended for use at night or during conditions of poor visibility should be illuminated, either internally or externally.	5.2.10.4	Recommendation — A heliport name marking intended for use at night or during conditions of poor visibility shall be illuminated, either internally or externally.	
46.	5.2.10.5	Recommendation — The characters of the marking should be not less than 3 m in height.	5.2.10.5	Recommendation — The characters of the marking shall be not less than 3 m in height.	
47.	5.2.10.6	Recommendation — The characters of the marking should be not less than 1.5 m in height at surface-level heliports and not less than 1.2 m on elevated heliports, helidecks and shipboard heliports. The colour of the marking should contrast with the background and preferably be white.	5.2.10.6	Recommendation — The characters of the marking shall be not less than 1.5 m in height at surface-level heliports and not less than 1.2 m on elevated heliports, helidecks and shipboard heliports. The colour of the marking shall contrast with the background and preferably be white.	
48.	5.2.11.6	Recommendation — The colour of the chevron should be black.	5.2.11.6	Recommendation — The colour of the chevron shall be black.	
49.	5.2.12.1	Recommendation — A surface marking should be provided to assist the pilot to identify the location of the helideck or shipboard heliport	5.2.12.1	Recommendation — A surface marking shall be provided to assist the pilot to identify the location of the helideck or shipboard heliport	

		during an approach by day.		during an approach by day.	
50.	5.2.12.2	Recommendation — A surface marking should be applied to the dynamic load-bearing area bounded by the TLOF perimeter marking.	5.2.12.2	Recommendation — A surface marking shall be applied to the dynamic load-bearing area bounded by the TLOF perimeter marking.	
51.	5.2.12.3	Recommendation — The helideck or shipboard heliport surface bounded by the TLOF perimeter marking should be of dark green using a high friction coating. Note.— Where the application of a surface coating may have a degrading effect on friction qualities, the surface might not be painted. In such cases, the best operating practice to enhance the conspicuity of markings is to outline deck markings with a contrasting colour.	5.2.12.3	Recommendation — The helideck or shipboard heliport surface bounded by the TLOF perimeter marking shall be of dark green using a high friction coating. Note.— Where the application of a surface coating may have a degrading effect on friction qualities, the surface might not be painted. In such cases, the best operating practice to enhance the conspicuity of markings is to outline deck markings with a contrasting colour.	
52.	5.2.13.2	Recommendation — The edges of a helicopter taxiway, if not self-evident, should be identified with markers or markings.	5.2.13.2	Recommendation — The edges of a helicopter taxiway, if not self-evident, shall be identified with markers or markings.	
53.	5.2.15.3	Recommendation — Alignment lines and lead-in/lead-out lines should be provided on a helicopter stand. Note 1.— See Chapter 3,	5.2.15.3	Recommendation — Alignment lines and lead-in/lead-out lines shall be provided on a helicopter stand. Note 1.— See Chapter	

		<p>Figures 3.5 to 3.9.</p> <p>Note 2.— Helicopter stand identification markings may be provided where there is a need to identify individual stands.</p> <p>Note 3.— Additional markings relating to stand size may be provided. See the Heliport Manual (Doc 9261).</p>		<p>3, Figures 3.5 to 3.9.</p> <p>Note 2.— Helicopter stand identification markings may be provided where there is a need to identify individual stands.</p> <p>Note 3.— Additional markings relating to stand size may be provided. See the Heliport Manual (Doc 9261).</p>	
54.	5.2.16.1	<p>Recommendation — Flight path alignment guidance marking(s) should be provided at a heliport where it is desirable and practicable to indicate available approach and/or departure path direction(s).</p> <p>Note.— The flight path alignment guidance marking can be combined with a flight path alignment guidance lighting system described in 5.3.4.</p>	5.2.16.1	<p>Recommendation — Flight path alignment guidance marking(s) shall be provided at a heliport where it is desirable and practicable to indicate available approach and/or departure path direction(s).</p> <p>Note.— The flight path alignment guidance marking can be combined with a flight path alignment guidance lighting system described in 5.3.4.</p>	
55.	5.2.16.4	<p>Recommendation — The markings should be in a colour which provides good contrast against the background colour of the surface on which they are marked, preferably white.</p>	5.2.16.4	<p>Recommendation — The markings shall be in a colour which provides good contrast against the background colour of the surface on which they are marked, preferably white.</p>	
56.	5.3.2.1	<p>Recommendation — A heliport beacon should</p>	5.3.2.1	<p>Recommendation — A heliport beacon shall</p>	

		<p>be provided at a heliport where:</p> <p>a) long-range visual guidance is considered necessary and is not provided by other visual means; or</p> <p>b) identification of the heliport is difficult due to surrounding lights.</p>		<p>be provided at a heliport where:</p> <p>a) long-range visual guidance is considered necessary and is not provided by other visual means; or</p> <p>b) identification of the heliport is difficult due to surrounding lights.</p>	
57.	5.3.2.5	<p>Recommendation — The effective light intensity distribution of each flash should be as shown in Figure 5-12, Illustration 1.</p> <p>Note.— Where brilliancy control is desired, settings of 10 per cent and 3 per cent have been found to be satisfactory. In addition, shielding may be necessary to ensure that pilots are not dazzled during the final stages of the approach and landing.</p>	5.3.2.5	<p>Recommendation — The effective light intensity distribution of each flash shall be as shown in Figure 5-12, Illustration 1.</p> <p>Note.— Where brilliancy control is desired, settings of 10 per cent and 3 per cent have been found to be satisfactory. In addition, shielding may be necessary to ensure that pilots are not dazzled during the final stages of the approach and landing.</p>	
58.	5.3.3.1	<p>Recommendation — An approach lighting system should be provided at a heliport where it is desirable and practicable to indicate a preferred approach direction.</p>	5.3.3.1	<p>Recommendation — An approach lighting system shall be provided at a heliport where it is desirable and practicable to indicate a preferred approach direction.</p>	
59.	5.3.3.3	<p>Recommendation — An approach lighting system should consist of a row of three lights spaced uniformly at 30 m intervals and of a crossbar 18 m in length</p>	5.3.3.3	<p>Recommendation — An approach lighting system shall consist of a row of three lights spaced uniformly at 30 m intervals and of a crossbar 18 m in length</p>	

		<p>at a distance of 90 m from the perimeter of the FATO as shown in Figure 5-13. The lights forming the crossbar should be as nearly as practicable in a horizontal straight line at right angles to, and bisected by, the line of the centre line lights and spaced at 4.5 m intervals. Where there is the need to make the final approach course more conspicuous, additional lights spaced uniformly at 30 m intervals should be added beyond the crossbar. The lights beyond the crossbar may be steady or sequenced flashing, depending upon the environment.</p> <p>Note.— Sequenced flashing lights may be useful where identification of the approach lighting system is difficult due to surrounding lights.</p>		<p>at a distance of 90 m from the perimeter of the FATO as shown in Figure 5-13. The lights forming the crossbar shall be as nearly as practicable in a horizontal straight line at right angles to, and bisected by, the line of the centre line lights and spaced at 4.5 m intervals. Where there is the need to make the final approach course more conspicuous, additional lights spaced uniformly at 30 m intervals shall be added beyond the crossbar. The lights beyond the crossbar may be steady or sequenced flashing, depending upon the environment.</p> <p>Note.— Sequenced flashing lights may be useful where identification of the approach lighting system is difficult due to surrounding lights.</p>	
60.	5.3.3.6	<p>Recommendation — The flashing lights should have a flash frequency of one per second and their light distribution should be as shown in Figure 5-12, Illustration 3. The flash sequence should commence from the outermost light and progress towards the</p>	5.3.3.6	<p>Recommendation — The flashing lights shall have a flash frequency of one per second and their light distribution shall be as shown in Figure 5-12, Illustration 3. The flash sequence shall commence from the outermost light and progress towards the crossbar.</p>	

		crossbar.			
61.	5.3.3.7	<p>Recommendation — A suitable brilliancy control should be incorporated to allow for adjustment of light intensity to meet the prevailing conditions.</p> <p>Note. — The following intensity settings have been found suitable:</p> <p>a) steady lights — 100 per cent, 30 per cent and 10 per cent; and</p> <p>b) flashing lights — 100 per cent, 10 per cent and 3 per cent.</p>	5.3.3.7	<p>Recommendation — A suitable brilliancy control shall be incorporated to allow for adjustment of light intensity to meet the prevailing conditions.</p> <p>Note. — The following intensity settings have been found suitable:</p> <p>a) steady lights — 100 per cent, 30 per cent and 10 per cent; and</p> <p>b) flashing lights — 100 per cent, 10 per cent and 3 per cent.</p>	
62.	5.3.4.1	<p>Recommendation — Flight path alignment guidance lighting system(s) should be provided at a heliport where it is desirable and practicable to indicate available approach and/or departure path direction(s).Note.— The flight path alignment guidance lighting can be combined with the flight path alignment guidance marking described in 5.2.16.</p>	5.3.4.1	<p>Recommendation — Flight path alignment guidance lighting system(s) shall be provided at a heliport where it is desirable and practicable to indicate available approach and/or departure path direction(s).Note.— The flight path alignment guidance lighting can be combined with the flight path alignment guidance marking described in 5.2.16.</p>	
63.	5.3.4.3	<p>Recommendation — If combined with a flight path alignment guidance marking, as far as is practicable the lights should be located inside the “arrow” markings.</p>	5.3.4.3	<p>Recommendation — If combined with a flight path alignment guidance marking, as far as is practicable the lights shall be located inside the “arrow” markings.</p>	
64.	5.3.4.4	Recommendation — A	5.3.4.4	Recommendation — A	

		<p>flight path alignment guidance lighting system should consist of a row of three or more lights spaced uniformly with a total minimum distance of 6 m. Intervals between lights should not be less than 1.5 m and should not exceed 3 m. Where space permits, there should be 5 lights. (See Figure 5-10.)</p> <p>Note.— The number of lights and spacing between these lights may be adjusted to reflect the space available. If more than one flight path alignment system is used to indicate available approach and/or departure path direction(s), the characteristics for each system are typically kept the same. (See Figure 5-10.)</p>		<p>flight path alignment guidance lighting system shall consist of a row of three or more lights spaced uniformly with a total minimum distance of 6 m. Intervals between lights shall not be less than 1.5 m and shall not exceed 3 m. Where space permits, there shall be 5 lights. (See Figure 5-10.)</p> <p>Note.— The number of lights and spacing between these lights may be adjusted to reflect the space available. If more than one flight path alignment system is used to indicate available approach and/or departure path direction(s), the characteristics for each system are typically kept the same. (See Figure 5-10.)</p>	
65.	5.3.4.6	Recommendation — The distribution of the lights should be as indicated in Figure 5 -12, Illustration5.	5.3.4.6	Recommendation — The distribution of the lights shall be as indicated in Figure 5 -12, Illustration5.	
66.	5.3.4.7	Recommendation — A suitable control should be incorporated to allow for adjustment of light intensity to meet the prevailing conditions and to balance the flight path alignment guidance lighting system with other heliport lights and	5.3.4.7	Recommendation — A suitable control shall be incorporated to allow for adjustment of light intensity to meet the prevailing conditions and to balance the flight path alignment guidance lighting system with other heliport lights and	

		general lighting that may be present around the heliport.		general lighting that may be present around the heliport.	
67.	5.3.5	<p>Recommendation — A visual alignment guidance system should be provided to serve the approach to a heliport where one or more of the following conditions exist, especially at night:</p> <p>a) obstacle clearance, noise abatement or traffic control procedures require a particular direction to be flown;</p> <p>b) the environment of the heliport provides few visual surface cues; and</p> <p>c) it is physically impracticable to install an approach lighting system.</p>	5.3.5	<p>Recommendation — A visual alignment guidance system shall be provided to serve the approach to a heliport where one or more of the following conditions exist, especially at night:</p> <p>a) obstacle clearance, noise abatement or traffic control procedures require a particular direction to be flown;</p> <p>b) the environment of the heliport provides few visual surface cues; and</p> <p>c) it is physically impracticable to install an approach lighting system.</p>	
68.	5.3.6	<p>Recommendation — A visual approach slope indicator should be provided to serve the approach to a heliport, whether or not the heliport is served by other visual approach aids or by non-visual aids, where one or more of the following conditions exist, especially at night:</p> <p>a) obstacle clearance, noise abatement or</p>	5.3.6	<p>Recommendation — A visual approach slope indicator shall be provided to serve the approach to a heliport, whether or not the heliport is served by other visual approach aids or by non-visual aids, where one or more of the following conditions exist, especially at night:</p> <p>a) obstacle clearance,</p>	

		<p>traffic control procedures require a particular slope to be flown;</p> <p>b) the environment of the heliport provides few visual surface cues; and</p> <p>c) the characteristics of the helicopter require a stabilized approach.</p>		<p>noise abatement or traffic control procedures require a particular slope to be flown;</p> <p>b) the environment of the heliport provides few visual surface cues; and</p> <p>c) the characteristics of the helicopter require a stabilized approach.</p>	
69.	5.3.7.4	<p>Recommendation — The light distribution of FATO lights should be as shown in Figure 5-12, Illustration 4.</p>	5.3.7.4	<p>Recommendation — The light distribution of FATO lights shall be as shown in Figure 5-12, Illustration 4.</p>	
70.	5.3.7.5	<p>Recommendation — The lights should not exceed a height of 25 cm and should be inset when a light extending above the surface would endanger helicopter operations. Where a FATO is not meant for lift-off or touchdown, the lights should not exceed a height of 25 cm above ground or snow level.</p>	5.3.7.5	<p>Recommendation — The lights shall not exceed a height of 25 cm and shall be inset when a light extending above the surface would endanger helicopter operations. Where a FATO is not meant for lift-off or touchdown, the lights shall not exceed a height of 25 cm above ground or snow level.</p>	
71.	5.3.8.1	<p>Recommendation — Where an aiming point marking is provided at a heliport intended for use at night, aiming point lights should be provided.</p>	5.3.8.1	<p>Recommendation — Where an aiming point marking is provided at a heliport intended for use at night, aiming point lights shall be provided.</p>	
72.	5.3.8.4	<p>Recommendation — The light distribution of aiming point lights should be as shown in Figure 5 -</p>	5.3.8.4	<p>Recommendation — The light distribution of aiming point lights shall be as shown in Figure 5</p>	

		12, Illustration 4.		-12, Illustration 4.	
73.	5.3.9.4	Recommendation — TLOF ASPSL and/or LPs to identify the TDPM and/or floodlighting should be provided at a surface-level heliport intended for use at night when enhanced surface texture cues are required.	5.3.9.4	Recommendation — TLOF ASPSL and/or LPs to identify the TDPM and/or floodlighting shall be provided at a surface-level heliport intended for use at night when enhanced surface texture cues are required.	
74.	5.3.9.11	Recommendation — When LPs are used on an elevated heliport or helideck to enhance surface texture cues, the panels should not be placed adjacent to the perimeter lights. They should be placed around a TDPM or coincident with heliport identification marking.	5.3.9.1 1	Recommendation — When LPs are used on an elevated heliport or helideck to enhance surface texture cues, the panels shall not be placed adjacent to the perimeter lights. They shall be placed around a TDPM or coincident with heliport identification marking.	
75.	5.3.9.15	Recommendation — The chromaticity and luminance of colours of LPs should conform to Annex 14, Volume I, Appendix 1, 3.4.	5.3.9.1 5	Recommendation — The chromaticity and luminance of colours of LPs shall conform to Annex 14, Volume I, Appendix 1, 3.4.	
76.	5.3.9.19	Recommendation — When located within the safety area of a surface-level or elevated heliport, the TLOF floodlights should not exceed a height of 25 cm.	5.3.9.1 9	Recommendation — When located within the safety area of a surface-level or elevated heliport, the TLOF floodlights shall not exceed a height of 25 cm.	
77.	5.3.9.22	Recommendation — The light distribution of the perimeter lights should be as shown in Figure 5 - 12, Illustration 5.	5.3.9.2 2	Recommendation — The light distribution of the perimeter lights shall be as shown in Figure 5 -12, Illustration 5.	
78.	5.3.9.23	Recommendation — The	5.3.9.2	Recommendation —	

		light distribution of the LPs should be as shown in Figure 5 -12, Illustration 6.	3	The light distribution of the LPs shall be as shown in Figure 5 -12, Illustration 6.	
79.	5.3.9.25	Recommendation — The average horizontal illuminance of the floodlighting should be at least 10 lux, with a uniformity ratio (average to minimum) of not more than 8:1 measured on the surface of the TLOF.	5.3.9.2 5	Recommendation — The average horizontal illuminance of the floodlighting shall be at least 10 lux, with a uniformity ratio (average to minimum) of not more than 8:1 measured on the surface of the TLOF.	
80.	5.3.9.26	Recommendation — Lighting used to identify the TDPC should comprise a segmented circle of omnidirectional ASPSL strips showing yellow. The segments should consist of ASPSL strips, and the total length of the ASPSL strips should not be less than 50 per cent of the circumference of the circle.	5.3.9.2 6	Recommendation — Lighting used to identify the TDPC shall comprise a segmented circle of omnidirectional ASPSL strips showing yellow. The segments shall consist of ASPSL strips, and the total length of the ASPSL strips shall not be less than 50 per cent of the circumference of the circle.	
81.	5.3.9.27	Recommendation — If utilized, the heliport identification marking lighting should be omnidirectional showing green.	5.3.9.2 7	Recommendation — If utilized, the heliport identification marking lighting shall be omnidirectional showing green.	
82.	5.3.10.1	Recommendation — Helicopter stand floodlighting should be provided on a helicopter stand intended to be used at night. Note. — Guidance on stand floodlighting is	5.3.10. 1	Recommendation — Helicopter stand floodlighting shall be provided on a helicopter stand intended to be used at night. Note. — Guidance on	

		given in the apron floodlighting section in the Aerodrome Design Manual (Doc 9157), Part 4.		stand floodlighting is given in the apron floodlighting section in the Aerodrome Design Manual (Doc 9157), Part 4.	
83.	5.3.10.2	Recommendation — Helicopter stand floodlights should be located so as to provide adequate illumination, with a minimum of glare to the pilot of a helicopter in flight and on the ground, and to personnel on the stand . The arrangement and aiming of floodlights should be such that a helicopter stand receives light from two or more directions to minimize shadows.	5.3.10.2	Recommendation — Helicopter stand floodlights shall be located so as to provide adequate illumination, with a minimum of glare to the pilot of a helicopter in flight and on the ground, and to personnel on the stand . The arrangement and aiming of floodlights shall be such that a helicopter stand receives light from two or more directions to minimize shadows.	
84.	5.3.11.4	Recommendation — The average horizontal illuminance should be at least 10 lux, measured on the surface of the winching area.	5.3.11.4	Recommendation — The average horizontal illuminance shall be at least 10 lux, measured on the surface of the winching area.	
85.	5.3.13.1	Recommendation — Where an aeronautical study indicates that obstacles in areas outside and below the boundaries of the obstacle limitation surface established for a heliport constitute a hazard to helicopters, they should be marked and lit, except that the marking may be omitted when the obstacle is	5.3.13.1	Recommendation — Where an aeronautical study indicates that obstacles in areas outside and below the boundaries of the obstacle limitation surface established for a heliport constitute a hazard to helicopters, they shall be marked and lit, except that the marking may be omitted when the obstacle is lighted with	

		lighted with high-intensity obstacle lights by day.		high-intensity obstacle lights by day.	
86.	5.3.13.2	Recommendation — Where an aeronautical study indicates that overhead wires or cables crossing a river, waterway, valley or highway constitute a hazard to helicopters, they should be marked, and their supporting towers marked and lit.	5.3.13.2	Recommendation — Where an aeronautical study indicates that overhead wires or cables crossing a river, waterway, valley or highway constitute a hazard to helicopters, they shall be marked, and their supporting towers marked and lit.	
87.	5.3.14.3	Recommendation — Obstacle floodlighting should be such as to produce a luminance of at least 10 cd/m ² .	5.3.14.3	Recommendation — Obstacle floodlighting shall be such as to produce a luminance of at least 10 cd/m ² .	
88.	6.1.3	Recommendation — The heliport emergency plan should provide for the coordination of the actions to be taken in the event of an emergency occurring at a heliport or in its vicinity.	6.1.3	Recommendation — The heliport emergency plan shall provide for the coordination of the actions to be taken in the event of an emergency occurring at a heliport or in its vicinity.	
89.	6.1.4	Recommendation — Where an approach/departure path at a heliport is located over water, the plan should identify which agency is responsible for coordinating rescue in the event of a helicopter ditching and indicate how to contact that agency.	6.1.4	Recommendation — Where an approach/departure path at a heliport is located over water, the plan shall identify which agency is responsible for coordinating rescue in the event of a helicopter ditching and indicate how to contact that agency.	
90.	6.1.5	Recommendation — The plan should include, as a	6.1.5	Recommendation — The plan shall include,	

		<p>minimum, the following information:</p> <p>a) the types of emergencies planned for;</p> <p>b) how to initiate the plan for each emergency specified;</p> <p>c) the name of agencies on and off the heliport to contact for each type of emergency with telephone numbers or other contact information;</p> <p>d) the role of each agency for each type of emergency;</p> <p>e) a list of pertinent on-heliport services available with telephone numbers or other contact information;</p> <p>f) copies of any written agreements with other agencies for mutual aid and the provision of emergency services; and</p> <p>g) a grid map of the heliport and its immediate vicinity.</p>		<p>as a minimum, the following information:</p> <p>a) the types of emergencies planned for;</p> <p>b) how to initiate the plan for each emergency specified;</p> <p>c) the name of agencies on and off the heliport to contact for each type of emergency with telephone numbers or other contact information;</p> <p>d) the role of each agency for each type of emergency;</p> <p>e) a list of pertinent on-heliport services available with telephone numbers or other contact information;</p> <p>f) copies of any written agreements with other agencies for mutual aid and the provision of emergency services; and</p> <p>g) a grid map of the heliport and its immediate vicinity.</p>	
91.	6.1.6	Recommendation — All agencies identified in the plan should be consulted about their role in the plan.	6.1.6	Recommendation — All agencies identified in the plan shall be consulted about their role in the plan.	
92.	6.1.7	Recommendation — The plan should be reviewed	6.1.7	Recommendation — The plan shall be	

		and the information in it updated at least yearly or, if deemed necessary, after an actual emergency, so as to correct any deficiency found during an actual emergency.		reviewed and the information in it updated at least yearly or, if deemed necessary, after an actual emergency, so as to correct any deficiency found during an actual emergency.	
93.	6.1.8	Recommendation — A test of the emergency plan should be carried out at least once every three years.	6.1.8	Recommendation — A test of the emergency plan shall be carried out at least once every three years.	
94.	6.2.1.3	<p>Recommendation — A safety risk assessment should be performed to determine the need for RFF equipment and services at surface-level heliports and elevated heliports located above unoccupied structures.</p> <p>Note. — Further guidance on factors to inform the safety risk assessment, including staffing models for heliports with only occasional movements and examples of unoccupied areas that may be located beneath elevated heliports, is given in the Heliport Manual (Doc 9261).</p>	6.2.1.3	<p>Recommendation — A safety risk assessment shall be performed to determine the need for RFF equipment and services at surface-level heliports and elevated heliports located above unoccupied structures.</p> <p>Note. — Further guidance on factors to inform the safety risk assessment, including staffing models for heliports with only occasional movements and examples of unoccupied areas that may be located beneath elevated heliports, is given in the Heliport Manual (Doc 9261).</p>	
95.	6.2.2.2	Recommendation — The practical critical area should be calculated by multiplying the helicopter fuselage length (m) by the helicopter fuselage width (m) plus an	6.2.2.2	Recommendation — The practical critical area shall be calculated by multiplying the helicopter fuselage length (m) by the helicopter fuselage	

		<p>additional width factor (W1) of 4 m. Categorization from H0 to H3 should be determined on the basis of the fuselage dimensions in Table 6 -1.</p> <p>Note 1.— For helicopters which exceed one or both of the dimensions for a category H3 heliport, it will be necessary to recalculate the level of protection using practical critical area assumptions based on the actual fuselage length and the actual fuselage width of the helicopter plus an additional width factor (W1) of 6 m.</p> <p>Note 2. — The practical critical area may be considered on a helicopter type-specific basis by using the formula in 6.2.2.2. Guidance on practical critical area in relation to the heliport firefighting category is given in the Heliport Manual (Doc 9261) where a discretionary 10 per cent tolerance on fuselage dimension “upper limits” is applied.</p>		<p>width (m) plus an additional width factor (W1) of 4 m. Categorization from H0 to H3 shall be determined on the basis of the fuselage dimensions in Table 6 - 1.</p> <p>Note 1.— For helicopters which exceed one or both of the dimensions for a category H3 heliport, it will be necessary to recalculate the level of protection using practical critical area assumptions based on the actual fuselage length and the actual fuselage width of the helicopter plus an additional width factor (W1) of 6 m.</p> <p>Note 2. — The practical critical area may be considered on a helicopter type-specific basis by using the formula in 6.2.2.2. Guidance on practical critical area in relation to the heliport firefighting category is given in the Heliport Manual (Doc 9261) where a discretionary 10 per cent tolerance on fuselage dimension “upper limits” is applied.</p>	
96.	6.2.2.3	Recommendation — For	6.2.2.3	Recommendation —	

		<p>heliports, except helidecks, the practical critical area should be based on an area contained within the heliport perimeter, which always includes the TLOF, and to the extent that it is load-bearing, the FATO.</p>		<p>For heliports, except helidecks, the practical critical area shall be based on an area contained within the heliport perimeter, which always includes the TLOF, and to the extent that it is load-bearing, the FATO.</p>	
97.	6.2.2.4	<p>Recommendation — For helidecks, the practical critical area should be based on the largest circle capable of being accommodated within the TLOF perimeter.</p> <p>Note. — Paragraph 6.2.2.4 is applied for the practical critical area calculation for helidecks regardless of how primary media is being delivered.</p>	6.2.2.4	<p>Recommendation — For helidecks, the practical critical area shall be based on the largest circle capable of being accommodated within the TLOF perimeter.</p> <p>Note. — Paragraph 6.2.2.4 is applied for the practical critical area calculation for helidecks regardless of how primary media is being delivered.</p>	
98.	6.2.3.1	<p>Recommendation — Where a rescue and firefighting service (RFFS) is provided at a surface-level heliport, the amount of primary media and complementary agents should be in accordance with Table 6-2.</p> <p>Note. — The minimum discharge duration in Table 6-2 is assumed to be two minutes. However, if the</p>	6.2.3.1	<p>Recommendation — Where a rescue and firefighting service (RFFS) is provided at a surface-level heliport, the amount of primary media and complementary agents shall be in accordance with Table 6-2.</p> <p>Note. — The minimum discharge duration in Table 6-2 is assumed to be two minutes. However, if the</p>	

		availability of back-up specialist fire services is remote from the heliport, consideration may need to be given to increasing the discharge duration from two minutes to three minutes.		availability of back-up specialist fire services is remote from the heliport, consideration may need to be given to increasing the discharge duration from two minutes to three minutes.	
99.	6.2.3.2	<p>Recommendation — Where an RFFS is provided at an elevated heliport, the amount of foam media and complementary agents should be in accordance with Table 6 -3.</p> <p>Note 1.— The minimum discharge duration in Table 6-3 is assumed to be five minutes.</p> <p>Note 2.— For guidance on the provision of additional hand-controlled foam branches for the application of aspirated foam, see the Heliport Manual (Doc 9261).</p>	6.2.3.2	<p>Recommendation — Where an RFFS is provided at an elevated heliport, the amount of foam media and complementary agents shall be in accordance with Table 6 -3.</p> <p>Note 1.— The minimum discharge duration in Table 6-3 is assumed to be five minutes.</p> <p>Note 2.— For guidance on the provision of additional hand-controlled foam branches for the application of aspirated foam, see the Heliport Manual (Doc 9261).</p>	
100.	6.2.3.3	<p>Recommendation — The amount of water required for foam production should be predicated on the practical critical area (m²) multiplied by the appropriate application rate (L/min/m²), giving a discharge rate for foam solution (in L/min). The discharge rate should be multiplied by the</p>	6.2.3.3	<p>Recommendation — The amount of water required for foam production shall be predicated on the practical critical area (m²) multiplied by the appropriate application rate (L/min/m²), giving a discharge rate for foam solution (in L/min). The discharge rate shall be multiplied by the discharge duration to calculate</p>	

		discharge duration to calculate the amount of water needed for foam production.		the amount of water needed for foam production.	
101.	6.2.3.4	Recommendation — The discharge duration should be at least three minutes.	6.2.3.4	Recommendation — The discharge duration shall be at least three minutes.	
102.	6.2.3.5	<p>Recommendation — Complementary media should be in accordance with Table 6-3, for H2 operations.</p> <p>Note. — For helicopters with a fuselage length greater than 16 m and/or a fuselage width greater than 2.5 m, complementary media in Table 6-3 for H3 operations may be considered. Purpose-built elevated heliports/limited-sized surface-level heliports with primary media applied in a dispersed pattern through a fixed application system (FAS) — a passive fire retarding surface with water-only deck integrated firefighting system (DIFFS).</p>	6.2.3.5	<p>Recommendation — Complementary media shall be in accordance with Table 6-3, for H2 operations.</p> <p>Note. — For helicopters with a fuselage length greater than 16 m and/or a fuselage width greater than 2.5 m, complementary media in Table 6-3 for H3 operations may be considered. Purpose-built elevated heliports/limited-sized surface-level heliports with primary media applied in a dispersed pattern through a fixed application system (FAS) — a passive fire retarding surface with water-only deck integrated firefighting system (DIFFS).</p>	
103.	6.2.3.6	Recommendation — The amount of water required should be predicated on the practical critical area	6.2.3.6	Recommendation — The amount of water required shall be predicated on the practical critical area	

		(m2) multiplied by the appropriate application rate (3.75 L/min/m2) giving a discharge rate for water (in L/min). The discharge rate should be multiplied by the discharge duration to determine the total amount of water needed.		(m2) multiplied by the appropriate application rate (3.75 L/min/m2) giving a discharge rate for water (in L/min). The discharge rate shall be multiplied by the discharge duration to determine the total amount of water needed.	
104.	6.2.3.7	Recommendation — The discharge duration should be at least two minutes.	6.2.3.7	Recommendation — The discharge duration shall be at least two minutes.	
105.	6.2.3.8	Recommendation — Complementary media should be in accordance with Table 6-3 for H2 operations. Note. — For helicopters with a fuselage length greater than 16 m and/or a fuselage width greater than 2.5 m, complementary media for H3 operations may be considered.	6.2.3.8	Recommendation — Complementary media shall be in accordance with Table 6-3 for H2 operations. Note. — For helicopters with a fuselage length greater than 16 m and/or a fuselage width greater than 2.5 m, complementary media for H3 operations may be considered.	
106.	6.2.3.9	Recommendation — The amount of water required for foam media production should be predicated on the practical critical area (m2) multiplied by the application rate (L/min/m2) giving a discharge rate for foam solution (in L/min). The discharge rate should be multiplied by the discharge duration to	6.2.3.9	Recommendation — The amount of water required for foam media production shall be predicated on the practical critical area (m2) multiplied by the application rate (L/min/m2) giving a discharge rate for foam solution (in L/min). The discharge rate shall be multiplied by the discharge duration to calculate the amount of water needed for	

		calculate the amount of water needed for foam production.		foam production.	
107.	6.2.3.10	Recommendation — The discharge duration should be at least five minutes.	6.2.3.10	Recommendation — The discharge duration shall be at least five minutes.	
108.	6.2.3.11	<p>Recommendation — Complementary media should be in accordance with Table 6-3 to H0 levels for helidecks up to and including 16.0 m and to H1/H2 levels for helidecks greater than 16.0 m. Helidecks greater than 24 m should adopt H3 levels.</p> <p>Note.— For guidance on the provision of additional hand-controlled foam branches for the application of aspirated foam, see the Heliport Manual (Doc 9261). Purpose-built helidecks with primary media applied in a dispersed pattern through an FAS — a passive fire-retarding surface with water-only DIFFS.</p>	6.2.3.11	<p>Recommendation — Complementary media shall be in accordance with Table 6-3 to H0 levels for helidecks up to and including 16.0 m and to H1/H2 levels for helidecks greater than 16.0 m. Helidecks greater than 24 m shall adopt H3 levels.</p> <p>Note.— For guidance on the provision of additional hand-controlled foam branches for the application of aspirated foam, see the Heliport Manual (Doc 9261). Purpose-built helidecks with primary media applied in a dispersed pattern through an FAS — a passive fire-retarding surface with water-only DIFFS.</p>	
109.	6.2.3.12	Recommendation — The amount of water required should be predicated on the practical critical area (m2) multiplied by the	6.2.3.12	Recommendation — The amount of water required shall be predicated on the practical critical area (m2) multiplied by the	

		<p>application rate (3.75 L/min/m²) giving a discharge rate for water (in L/min). The discharge rate should be multiplied by the discharge duration to calculate the amount of water needed.</p> <p>Note.— Sea-water may be used.</p>		<p>application rate (3.75 L/min/m²) giving a discharge rate for water (in L/min). The discharge rate shall be multiplied by the discharge duration to calculate the amount of water needed.</p> <p>Note.— Sea-water may be used.</p>	
110.	6.2.3.13	<p>Recommendation — The discharge duration should be at least three minutes.</p>	6.2.3.1 3	<p>Recommendation — The discharge duration shall be at least three minutes.</p>	
111.	6.2.3.14	<p>Recommendation — Complementary media should be in accordance with Table 6-3 to H0 levels for helidecks up to and including 16.0 m and to H1/H2 levels for helidecks greater than 16.0 m. Helidecks greater than 24 m should adopt H3 levels.</p>	6.2.3.1 4	<p>Recommendation — Complementary media shall be in accordance with Table 6-3 to H0 levels for helidecks up to and including 16.0 m and to H1/H2 levels for helidecks greater than 16.0 m. Helidecks greater than 24 m shall adopt H3 levels.</p>	
112.	6.2.4.1	<p>Recommendation — At surface-level heliports, the operational objective of the RFF response should be to achieve response times not exceeding two minutes in optimum conditions of visibility and surface conditions.</p> <p>Note. — Response time is considered to be the time between the initial call to the RFFS and the</p>	6.2.4.1	<p>Recommendation — At surface-level heliports, the operational objective of the RFF response shall be to achieve response times not exceeding two minutes in optimum conditions of visibility and surface conditions.</p> <p>Note. — Response time is considered to be the time between the initial call to the RFFS</p>	

		time when the first responding vehicle(s) (the service) is (are) in position to apply foam at a rate of at least 50 per cent of the discharge rate specified in Table 6-2.		and the time when the first responding vehicle(s) (the service) is (are) in position to apply foam at a rate of at least 50 per cent of the discharge rate specified in Table 6-2.	
113.	6.2.4.2	Recommendation — At elevated heliports, limited-sized surface-level heliports and helidecks, the response time for the discharge of primary media at the required application rate should be 15 seconds measured from system activation. If RFF personnel are needed, they should be immediately available on or in the vicinity of the heliport while helicopter movements are taking place.	6.2.4.2	Recommendation — At elevated heliports, limited-sized surface-level heliports and helidecks, the response time for the discharge of primary media at the required application rate shall be 15 seconds measured from system activation. If RFF personnel are needed, they shall be immediately available on or in the vicinity of the heliport while helicopter movements are taking place.	
114.	6.2.5	Recommendation — Rescue arrangements commensurate with the overall risk of the helicopter operation should be provided at the heliport. Note. — Guidance on rescue arrangements, e.g. options for rescue and for personal protective equipment to be provided at a heliport, is given in the Heliport Manual (Doc 9261).	6.2.5	Recommendation — Rescue arrangements commensurate with the overall risk of the helicopter operation shall be provided at the heliport. Note. — Guidance on rescue arrangements, e.g. options for rescue and for personal protective equipment to be provided at a heliport, is given in the Heliport Manual (Doc 9261).	

115.	6.2.6	Recommendation — A suitable alerting and/or communication system should be provided in accordance with the emergency response plan.	6.2.6	Recommendation — A suitable alerting and/or communication system shall be provided in accordance with the emergency response plan.	
116.	6.2.8.2	<p>Recommendation — Access points should be located as far apart from each other as is practicable.</p> <p>Note. — The provision of an alternative means of escape is necessary for evacuation and for access by RFF personnel. The size of an emergency access/egress route may require consideration of the number of passengers and of special operations such as helicopter emergency medical services that require passengers to be carried on stretchers or trolleys.</p>	6.2.8.2	<p>Recommendation — Access points shall be located as far apart from each other as is practicable.</p> <p>Note. — The provision of an alternative means of escape is necessary for evacuation and for access by RFF personnel. The size of an emergency access/egress route may require consideration of the number of passengers and of special operations such as helicopter emergency medical services that require passengers to be carried on stretchers or trolleys.</p>	
117.	5.1.1	Recommendation — Where an approach lighting system is provided for a non-precision FATO, the system should not be less than 210 m in length.	5.1.1	Recommendation — Where an approach lighting system is provided for a non-precision FATO, the system shall not be less than 210 m in length.	
118.	5.1.2	Recommendation — The light distribution of steady lights should be as indicated in Figure 5 -12, Illustration 2 except that	5.1.2	Recommendation — The light distribution of steady lights shall be as indicated in Figure 5 - 12, Illustration 2 except	

		the intensity should be increased by a factor of three for a non-precision FATO.		that the intensity shall be increased by a factor of three for a non-precision FATO.	
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