



DIRECTORATE OF AVIATION
GOVT. OF CHHATTISGARH
Mahanadi Bhawan, Mantralaya,
Atal Nagar, Nava Raipur

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Capital Complex, Mantralaya
Nava Raipur : 492002, INDIA

Ref. No. : 118/Dir./Avi./GoCG/2024,

Nava Raipur, Date 13.08.2024

STANDARD OPERATING PROCEDURE FOR PREPARATION AND OPERATIONS OF HELIPADS IN CHHATTISGARH

1. Reference is made to the following (copies attached):-
 - (a) DGCA Civil Aviation Requirements (CAR) Section 4 Series B Part II dated 21 Dec. 2005.
 - (b) DGCA Civil Aviation Requirements (CAR) Section 4 Series B Part-V dated 04 August 2011.
 - (c) Letters of this department vide reference no. 2/Vima / Sanch / Rai / 2011 dated 19.09.2011.
 - (d) Letter of this Department reference no. 430/ Dir / Avi / GoCG / 2023 dated 28.06.2023.
2. There is a need to review Helipad preparations and various aspects related to it as enumerated in subsequent paragraphs.
3. **Helipad dimensions:-** Helipad dimensions are required to be as per the CAR under reference at Para 1 above. Diagrams (Fig 3 & 4 – pages 6 & 7 respectively) of the letter attached under reference at Para 1(c) above may please be referred. In case of two helicopter operations from same helipad; the two helipad circles should be minimum 30 m apart.
4. **Helipad preparation and dust prevention:-** Helipad surface could be hard, grassy or concrete as the case maybe. It is to be noted that grass on the surface helps in reduction of dust. Therefore, grass should not be removed in the Helipad area. In addition area inside the barricade should not have dust / loose soil. In case of non-grassy surface, a layer of cow dung must be applied as dust protection measure on the surface inside barricade. Watering could also be resorted to around Helipad just prior to arrival of helicopter. Care must be taken to keep the passenger movement area dry.
5. **Selection of site:-** Selection of site for helipad will be the responsibility of District Magistrate and Superintendent of Police. Selection of Helipad site is important from point of view of finding suitable approach cones for the helicopter operations. It is important to keep at least two opposite sides free from obstructions like high trees / buildings / Mobile towers/ water tank/ signal antenna etc. Diagrams (Fig 3 & 4 – pages 6 & 7 respectively) attached as at letter under reference at Para 1(c) above may please be referred.
6. **Obstructions around Helipad and their marking:-** Obstructions in approach and takeoff cones need to be suitably marked. It needs to be pointed out that Red flags are essentially meant to highlight availability of obstructions difficult to observe like wires between poles (poles are marked by red flags) and communication network antenna etc. In case of high tension or low tension wires in the vicinity of helipad boundary, it is recommended that power supply should be managed for takeoff and landing of helicopters at the helipad. Height of barricade poles must not be more than 5-6 feet. Area around helipad should be free from loose articles / polythene bags / sheets to prevent them from getting into main rotor blades.

7. **Vehicular traffic at the helipad:-** No vehicles other than VIP should be permitted inside helipad, besides vehicle carrying fuel for the helicopter. Location of fire tender, ambulance and fuel vehicle should be outside the barricade at such a location from where they can access inside Helipad at ease without getting obstructed by the crowd. It must be noted that parking location of these vehicles must not be in the approach / takeoff cone area for helicopter. Suitable fire tender available should be in readiness for immediate action in case of need at the time of helicopter landing, start - up and takeoff.
8. **Security arrangements:-** Suitable arrangements for safety of helicopter operations like fire tender and ambulance must be made. Safety of helicopter and crew needs to be ensured.
9. **Crowd control in the helipad:-** Particular attention needs to be paid to crowd control at the helipads at the time of arrival /departure of passengers. On arrival, no one should enter the helipad barricade till such time rotors blades stop. Only after that, a limited Reception party may be permitted in to welcome the visiting VIP. After departure of VIP from the helipad, no one should be permitted inside barricade at all. At the time of departure, Reception party must be escorted out of the helipad before rotors start. At no point of time, anybody should approach helicopter Circle on ground from tail rotor side or when the rotor blades have started rotating.
10. **Drone activity near helipads:-** helicopter carrying VIP will always select direction to land, depending on available winds. Therefore, no drone flying is permitted in a zone of 3 km around the helipad in case helicopter landing permission has been provided.
11. **Availability of smoke candles:-** Smoke candles or wind sock should be available and deployed suitably in such a manner that smoke should not come on the Helipad.
12. **Special conditions and their handling:-** Care must be taken to ensure that helipad surface doesn't become soft in case of rain. In case of such possibilities, particularly during monsoon, alternate helipad arrangements needs to be planned.
13. **Responsibility:-** Overall responsibility of suitable quality of VIP helipads rests with the District Magistrate and Superintendent of Police.



(Sanjeev Kumar Jha, IAS)
Director

Directorate of Aviation
Mantralaya, Nava Raipur(C.G.)

Nava Raipur, Date | 3 .08.2024

Endt. No. : 1182/Dir./Avi./GoCG/2024,
Copy To,

1. Collector, Distt.....
2. Superintendent of Police, Distt.


Director
Directorate of Aviation
Mantralaya, Nava Raipur(C.G.)

विमानन संचालनालय
केपिटल कॉम्प्लेक्स महानदी भवन,
मंत्रालय, अटल नगर, नवा रायपुर, (छ0ग0)

क्रमांक 4311 / विमा0 / संचा0 / 2023

नवा रायपुर, दिनांक 28/06/2023

प्रति,

कलेक्टर,
जिला-..... (छ0ग0).

विषय:- राज्य में शासकीय उड़ानों हेतु हेलीपेड तैयार करने के मापदण्ड के अनुपालन के संबंध में।

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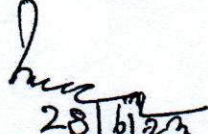
विषयांतर्गत माननीय मुख्यमंत्री, छत्तीसगढ़ शासन एवं अन्य व्हीआईपी के शासकीय दौरा कार्यक्रम में प्रयुक्त हेलीकॉप्टर के लैंडिंग एवं उड़ान संचालन के लिए डायरेक्टर जनरल ऑफ सिविल एविएशन (DGCA) के मापदण्ड के समस्त प्रमुख बिन्दुओं को शामिल करते हुये हेलीपेड तैयार करने हेतु बनाया गया STANDARD OPERATING PROCEDURE FOR PREPARATION OF HELIPADS संलग्न है।

माननीय मुख्यमंत्री, छत्तीसगढ़ शासन एवं अन्य व्हीआईपी के शासकीय प्रवास कार्यक्रमों में प्रयुक्त हेलीकॉप्टर के लैंडिंग व उड़ान हेतु जिलों से हेलीपेड के Co-ordinate उपलब्ध कराये जाते हैं। किन्तु खराब मौसम, आपात स्थिति व अन्य कारणों से कभी-कभी निर्धारित हेलीपेड में हेलीकॉप्टर की लैंडिंग संभव नहीं होने अथवा प्रस्तावित लैंडिंग प्लान में परिवर्तन किये जाने पर हेलीकॉप्टर को अन्यत्र डायवर्ट किया जाता है।

अतः संलग्न SOP तथा समय-समय पर जारी निर्देशानुसार हेलीपेड तैयार कराये जाने तथा प्रत्येक VIP विजिट के दौरान मूल हेलीपेड के अतिरिक्त आपात स्थिति हेतु वैकल्पिक हेलीपेड तैयार करते हुये Co-ordinates उपलब्ध कराया जाना सुनिश्चित किया जावे।

बारिश के मौसम को दृष्टिगत रखते हुये पक्के हेलीपेड का ही उपयोग किया जावे। कृपया SOP तथा निर्देशों का पूर्णतः अनुपालन सुनिश्चित किये जाने हेतु संबंधितों को निर्देशित करने का कष्ट करेंगे।

संलग्न:- उपर्युक्तानुसार।


28/6/23
(नीलम नामदेव एक्का)
संचालक
विमानन संचालनालय
मंत्रालय, नवा रायपुर (छ0ग0)



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DIRECTORATE OF AVIATION
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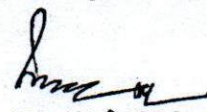
Ref. No. : 430/Dir./Avi./GoCG/2023,

Nava Raipur, Date 28.06.2023

STANDARD OPERATING PROCEDURE FOR PREPARATION OF
HELIPADS IN CHHATTISGARH

1. Reference is made to the following (copies attached):-
 - (a) DGCA Civil Aviation Requirements (CAR) Section 4 Series B Part II dated 21 December 2005.
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(Neelam Namdeo Ekka, IAS)
Director
Directorate of Aviation
Mantralaya, Nava Raipur(C.G.)



सत्यमेव जयते

GOVERNMENT OF INDIA

OFFICE OF DIRECTOR GENERAL OF CIVIL AVIATION

TECHNICAL CENTRE, OPP SAFDARJANG AIRPORT, NEW DELHI

**CIVIL AVIATION REQUIREMENTS
SECTION 4 - AERODROME STANDARDS
& AIR TRAFFIC SERVICES**

SERIES 'B', PART II

21st December, 2005

EFFECTIVE: FORTHWITH

Subject: Minimum Safety Requirements for temporary Helicopter Landing Areas.

1. INTRODUCTION

- 1.1 Rule 78 of the Aircraft Rules, 1937 requires licensing of such aerodromes that are used as regular place of landing and departure by a scheduled air transport service or for a series of landings and departures by any aircraft carrying passengers or cargo for hire or reward. Further, sub rule (4) of the said rule stipulates that no person shall operate or cause to be operated any flight from a temporary aerodrome or an aerodrome which has not been licensed or approved, as the case may be, under these rules unless it meets the minimum safety requirements laid down by the Director-General.
- 1.2 Helicopters are, by design, able to use non-conventional operating sites. Helicopters offer significant advantage over the use of aeroplanes for passenger transport by being able to operate away from conventional aerodromes into and from ad hoc sites or specially designed heliports.
- 1.3 Heliport or helicopter sites are not required to be licensed unless they are to be used by a schedule transport service and/ or for public transportation involving series of landing and/ or hire and reward.
- 1.4 In pursuance to sub rule (4) of Rule 78 this part of the Civil Aviation Requirements lays down the minimum safety requirements for helicopters operating to/from temporary helicopter landing areas within the Indian Territory outside an aerodrome.
- 1.5 This CAR is issued under the provisions of Rule 133A of the Aircraft Rules, 1937.

2. Applicability

- 2.1 This CAR provides the minimum safety requirement considered necessary for helicopter landing areas located outside an aerodrome, for temporary use by helicopters engaged on chartered/ private flight operation.
- 2.2 The term temporary used here means a place not used by the same helicopter operator for landing and take off for more than 7 days within a consecutive period of 30 days.
- 2.3 These requirements do not apply to elevated heliports, e.g. on top of buildings, constructions, etc.

3. General Safety Requirements

- 3.1 This CAR does not absolve the helicopter operator from compliance of any other requirement that are laid down in relevant CARs for the operation and maintenance of the helicopter.
- 3.2 The site to be used for temporary helicopter operations should be a level piece of well-drained ground, either good grass or solid surface free from loose stones, debris. The Final Approach and Take off Area should be obstruction free.
- 3.3 Before undertaking any such flight, the helicopter operator and/ or his pilot must satisfy himself by his physical inspection on ground/ air and/ or obtaining required information from District authorities that surroundings are free from obstacles and the site suitable for operations of type of helicopter being operated and there is sufficient open space to force land, if necessary.
- 3.4 If the temporary helicopter landing area is situated within aerodrome traffic zone or aerodrome control zone of a public aerodrome, the flight shall be coordinated with the air traffic control at the aerodrome concerned. Pilots operating to these sites must comply with the aerodrome procedures when operating within the Aerodrome Control Zone. The details of the site like name of site, and grid reference shall be given to the air traffic services of that aerodrome.
- 3.5 Helicopter operator through their Accountable Manager shall be responsible for the safety of helicopter operations, passengers and people on ground.
- 3.6 Permission of owner of the site shall be obtained, before it is used for helicopter operation and the district authorities notified in advance. It is the responsibility of the owner or the person having control of such place to ensure that the land is used as per the applicable local regulations.
- 3.7 When such place is used by helicopters carrying VP all instructions issued from time to time in this regard shall be complied with by the operator through his Accountable Manager/ Pilot

- 3.8 At least one 12 kg powder (DCP) fire extinguisher shall be available at the landing/ take-off area, clearly marked and situated so that it can be used quickly in case of fire. A first aid box shall be placed within easy reach and clearly marked. The box shall be maintained in accordance with the instructions and its contents shall be supplemented whenever used.
- 3.9 While manoeuvring the helicopter in a low hover, helicopter should be manoeuvred in such a manner that its centreline is not closer to any objects/building than 1.5 x Rotor Diameter or 30 metres, whichever is the greater.
- 3.10 Approach and departure shall be performed within sectors which as far as possible shall be in direct continuation of the take-off and landing directions, respectively. The sectors shall be without obstacles in the entire width and in a vertical distance of at least 35 ft from the approach and departure surfaces.
- 3.11 Approach and departure shall be performed in a way that forced landing can be carried out on a suitable emergency landing area at any time, unless a helicopter with one engine out of operation is capable of clearing any obstacle in the sector with a clearance of at least 35 ft.
- 3.12 Prior Operational authorization would be required from the DGCA, in case Air Taxi and/ or sightseeing flights are undertaken from such a place.

4. Site Requirements

4.1 Touch down and Lift off area (TLOF)

The minimum dimensions of the TLOF shall be 2 B X 2 B, where B equals the wheel base or the side base of the helicopter whichever is more, of the helicopter used (Ref Annexure – I). A TLOF shall be capable of supporting the weight of the helicopter intended to be used.

4.2 Final Approach and Take-off area (FATO)

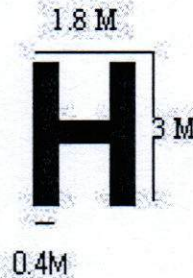
TLOF shall be encompassed by a FATO. The minimum dimensions of the FATO shall be 1.5 A x 1.5 A, where A equals the maximum overall length of the helicopter used (Ref Annexure – I). This area shall be without obstructions. The surface shall be suitable for forced landings and free from loose objects, which may endanger the safe performance of the flight.

4.3 Marking

A helicopter identification marking shall be provided within the TLOF area and shall consist of letter "H" white in colour. The legs of the 'H' should be 3 metres in length and 0.4 metres wide. The crossbar should be of the same width and separate the legs so that the overall width of the 'H' is 1.8 metres. The marking used shall be of such a nature and fixed in a way that it does not

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constitute a risk to the flight or to any third party. The marking shall be as shown in the figure given below:



Helicopter Landing Area identification marking

4.4 Wind Direction Indicator

A wind direction indicator may be a wind sleeve, flag or continuous smoke source. It should be so situated so as to be visible from a helicopter in flight, in a hover or on the movement area and should indicate the wind conditions over the FATO in such a way as to be free from the effects of airflow disturbances caused by nearby objects or rotor downwash.

4.5 Safety area

The take-off and landing area should be surrounded by a safety area, the width of which should not be less than 10 m. Within the safety area no obstacle must be higher than 1 m. The surface shall be suitable for any forced landings, if required.

Note : A sketch of the TLOF, FATO and Safety area is at Appendix 'I'. A list of dimensions A & B of the most common Indian registered helicopter is at Appendix 'II'.

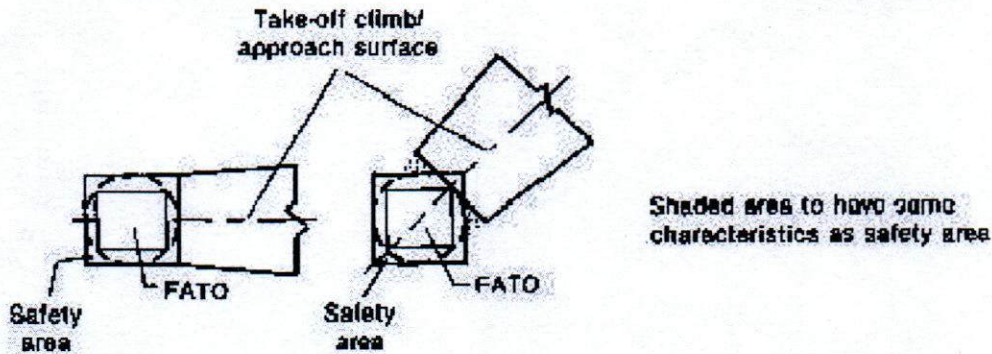
4.6 Approach and Take off climb surface

An Approach and Take-off climb surface in an inclined plane sloping upwards (8%) from the end of the safety area and centered on a line passing through the centre of the FATO, should be available for a distance of at least 245 meters.

The Approach and take-off climb surface should comprise:

- a) an inner edge horizontal and equal in length to the minimum specified width of the FATO plus the safety area, perpendicular to the centre line of the take-off climb surface and located at the outer edge of the safety area; and
- b) two side edges originating at the ends of the inner edge and diverging uniformly at a specified rate of 10% from the vertical plane containing the centre line of the FATO.

Note.- For landing area used by performance class 2 and 3 helicopters, it is advised that departure paths be selected so as to permit safe forced landings or one-engine-inoperative landings such that, as a minimum requirement, injury to persons on the ground or damage to property are minimized. Provisions for forced landing areas are expected to minimize risk of injury to the occupants of the helicopter. Such area can be determined on the basis of performance characteristics of the helicopter.



Final Approach & Take off Surface

5 Protection of site

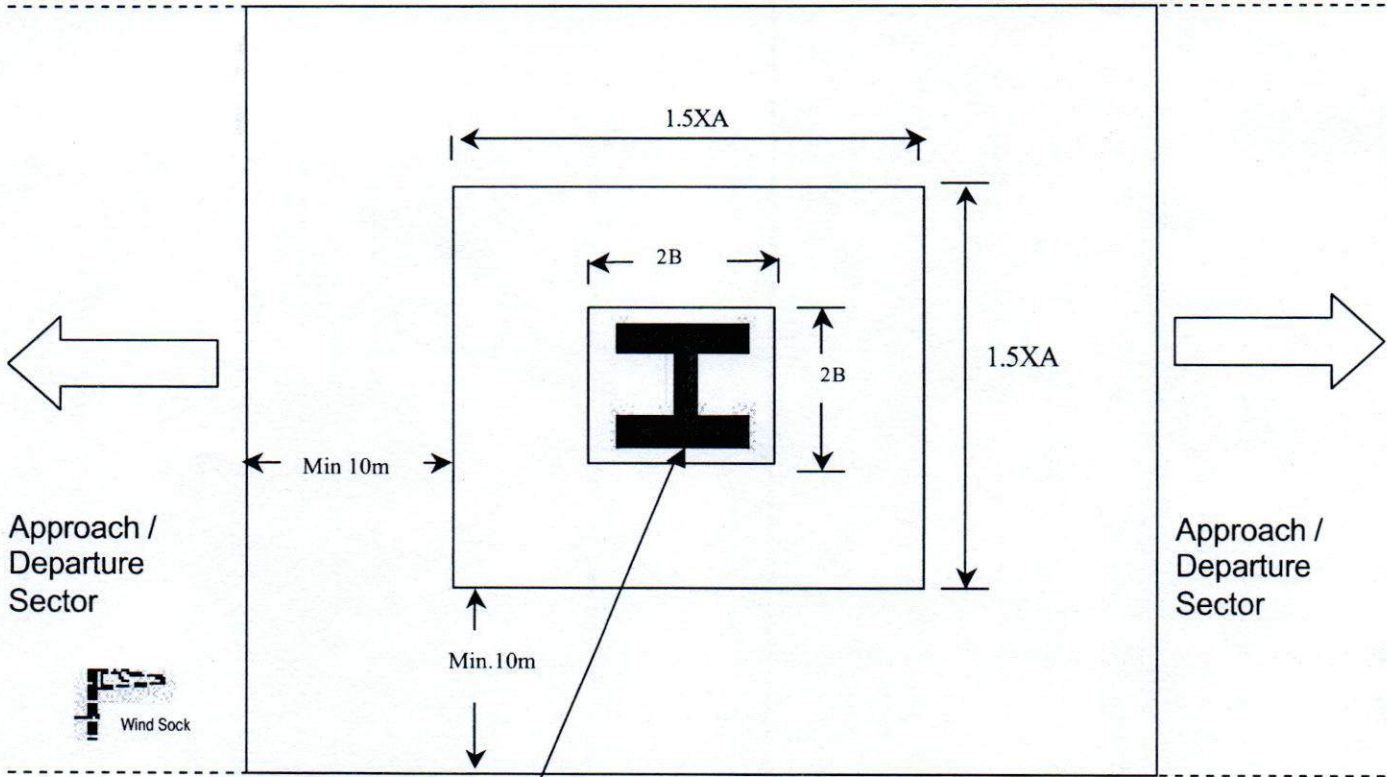
- 5.1 Before an area is used as take-off and landing area, operator shall take necessary measures to protect the site by cordoning, fencing with fragile material, etc. to ensure that no unauthorised persons, vehicles or stray animals enter into the perimeter of the safety area.
- 5.2 When sightseeing flights are carried out as part of a joint public event, e.g. a sporting event, a town festival, or the like, the event organizer is responsible to ensure that adequate safety measures are in place which should address the aspect of crowd control, security and separation of crowd from flying operations.

K. Gohain

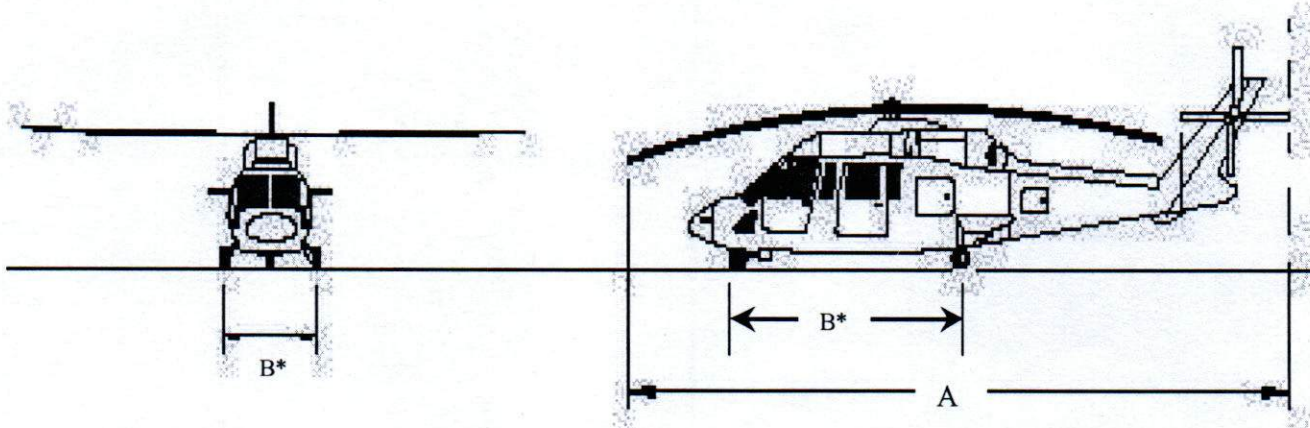
(K. Gohain)
Joint Director General of Civil Aviation

Appendix I

SKETCH OF LANDING/ TAKE-OFF AREA REQUIRED



Touch down and Lift off (TLOF) area sufficiently strong to support the weight of helicopter



*Whichever is more shall be taken as 'B' for the purpose of TLOF dimension.

Appendix II

**DIMENSIONS OF SOME COMMON INDIAN
REGISTERED HELICOPTERS**

Type	Over all		Under carriage 'B'		
	Length 'A' (m)	Height (m)	Type	Length (m)	Width (m)
AS 355	12.99	3.15	skid	2.91	2.10
Bell 206 B3	11.91	3.16	skid	2.52	2.07
Bell 206 L3 & L4	12.95	3.13	skid	3.01	2.34
Bell 212	17.47	3.84	skid	3.68	2.68
BELL 230 HELICOPTER	15.30	3.65	Wheel/ skid	3.71	2.37
Bell 407	12.74	3.32	skid	3.01	2.28
Bell 412 EP	17.37	4.57	skid	2.40	2.53
BELL 430	15.30	4.02	Wheel/ skid	3.81	2.53
BELL 47	13.41	3.04	Skid	3.01	2.28
CHEETAH SA315	12.94	3.35	skid	3.29	2.37
ALLOUETTE III SA316B	10.17	2.96	wheel	3.50	2.59
DAUPIN AS 365N3	13.73	4.06	Wheel	3.64	1.89
EC135 T1	12.19	3.50	skid	3.2	2.01
ECUREUIL AS350	12.93	3.34	skid	1.43	2.28
EUROCOPTER EC 130	12.64	3.60	skid	3.2	2.40
SIKORSKY S76C	16	4.41	Wheel	5	2.44



GOVERNMENT OF INDIA

OFFICE OF DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPP SAFDARJANG AIRPORT, NEW DELHI**CIVIL AVIATION REQUIREMENTS**
SECTION 4 – AERODROME STANDARDS
& LICENSING**SERIES 'B' PART V**
4TH AUGUST, 2011**EFFECTIVE: FORTHWITH****Subject: Minimum Safety Requirements for Helicopter Landing Areas used on Regular basis.****1. INTRODUCTION**

- 1.1 Rule 78 of the Aircraft Rules, 1937 requires licensing of such aerodromes that are used as regular place of landing and departure by a scheduled air transport service or for a series of landings and departures by any aircraft carrying passengers or cargo for hire or reward. Further, sub rule (4) of the said rule stipulates that no person shall operate or cause to be operated any flight from a temporary aerodrome or an aerodrome which has not been licensed or approved, as the case may be, under these rules unless it meets the minimum safety requirements laid down by the Director-General.
- 1.2 Helicopter is a versatile machine which can be used to provide transportation without requiring an elaborate infrastructure like airport/airstrip. Because of this reason, the helicopter landing area and facilities are ensured by the helicopter operators for safety of helicopter operations, depending on quantum of operation. Therefore, minimum safety requirement for helicopter landing area on temporary basis has already been laid down separately in CAR on the subject.
- 1.3 There are certain helicopters landing areas which are not constructed as Heliport, however, are being used for regular operation for passenger transportation. Such helicopter landing areas are generally located and used extensively at places where helicopter transportation is preferred mode over the other modes of transportation due to geographical and other constraints. Such sites are normally owned by state government or other entities which are having their limited use. However, such owners extend its use on regular basis to helicopter operator without assuming the responsibility for operational aspects/ facilities at the landing area. Regulatory oversight cannot be

performed over such areas due to various factors e.g. periodicity of operation, geographical location, large number of such areas.

- 1.4 Such usage of helicopter landing site is permitted by the owner with or without assuming any responsibility regarding the availability of minimum facilities. Therefore it is imperative on part of Helicopter operator to ensure that minimum facilities required for safe helicopter operations are available at site. Due to this reason it has been made obligatory in CAR, Section 8, Series 'O' Part IV & V, Operation of Commercial Air Transport/ General Aviation – Helicopters, on part of operator/ Pilot-in-Command, to ensure that a flight will not be commenced unless it has been ascertained by every reasonable means available that the ground and/or water facilities available and directly required on such flight, for the safe operation of the helicopter and the protection of the passengers, are adequate for the type of operation under which the flight is to be conducted and are adequately operated for this purpose.
- 1.5 In pursuance to sub rule (4) of Rule 78 and in order to address operation in aforesaid conditions this CAR lays down the minimum safety requirements for helicopters operating to/from helicopter landing areas within the Indian Territory outside an licensed aerodrome/ heliports and procedures to be followed by Helicopter operators for such operations.
- 1.6 This CAR is issued under the provisions of Rule 133A of the Aircraft Rules, 1937.

2. Applicability

- 2.1 This CAR provides the minimum safety requirement considered necessary for helicopter landing areas located outside a licensed aerodrome/heliport and used on regular basis by helicopters engaged in carrying passengers or cargo for hire or reward under day VFR conditions and is applicable for operations which are beyond the purview of Civil Aviation Requirement for temporary helicopter landing areas.
- 2.2 The helicopter operations from landing sites used for private operations on regular basis may also follow the requirement laid in this CAR for ensuring safety of helicopter operations.
- 2.3 This CAR is applicable to the helicopter operator carrying out such operations and also to organization which are assigned with the responsibility by the helicopter operator to ensure minimum safety requirement for their operations.

3. Minimum Facilities at the Helicopter landing sites

The following facilities shall be provided for a surface level helicopter landing site for the type of helicopter intended to be operated as described in CAR Section 4 Series B Part III on 'Heliport' for the information of the flight crew;

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3.1 Landing area

- a) Final approach and take-off area — type of FATO, length, width, slope, surface type;
- b) Touchdown and lift-off area — with dimensions, surface type, bearing strength; when surface is different from FATO;
- c) safety area — length, width and surface type;
- d) Rejected take-off area, suitable for helicopters if operating in performance class 1 to complete a rejected take-off.
- e) Parking area, if provided shall be clear from FATO as per the requirement and if not shall be suitably addressed through operational mitigation measures.

3.2 Visual Aids:

The landing sites shall be provided with following visual aids;

- a) At least one wind direction indicator.
- b) Helicopter landing area identification marking 'H'
- c) Final approach and take-off area marking
- d) A touchdown and lift-off area marking shall be provided if the perimeter of the touchdown and lift-off area is not self-evident.

3.3 Approach and Take off climb surface

At least one Approach and Take-off climb surface in an inclined plane sloping upwards (8%) from the end of the safety area with 10% divergence centered on a line passing through the centre of the FATO, should be available for a distance of at least 245 meters.

3.4. Rescue and Fire fighting facilities

The level of protection to be provided for rescue and fire fighting shall be based on the over-all length of the longest helicopter normally using the heliport and in accordance with the heliport fire fighting category determined from Table 6-1 and 6-2 of CAR Section 4 .

4 Protection of site

- 4.1 The operator shall take necessary measures to protect the landing site by cordoning, fencing etc., to prevent entry of unauthorized persons, vehicles or stray animals.
- 4.2 Where required the aspect of crowd control, security of operation and separation of crowd from flying operations shall also be ensured.

5. General Safety Requirements

- 5.1 Subject to the number of movements, system for communicating with Helicopters from ground to inform sequence/ availability of FATO for landing,

**CIVIL AVIATION REQUIREMENTS
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**SECTION 4
4TH AUGUST 2011**

- communicating essential information, either through walkie-talkie/VHF/ aldes lamp/ hand signals, as considered appropriate may be established.
- 5.2 Helicopter operator shall designate or assign the responsibility to a person for safety of helicopter operations, passengers and people on ground.
 - 5.3 When such place is used by helicopters carrying VIP, all instructions issued from time to time in this regard shall be complied with by the operator.
 - 5.4 Approach and departure shall be performed in a way that forced landing can be carried out on a suitable emergency landing area at any time, unless a helicopter with One Engine in Inoperative (OEI) is capable of clearing any obstacle in the sector with a clearance of at least 35 ft.
 - 5.5 Proper procedure for filing the flight plan and obtaining FIC/ADC number shall be specified in the SOP and record of the same shall be maintained.
 - 5.6 Proper arrangement shall be made for obtaining the weather reports/ forecast from the nearest Met establishment. In addition, arrangements for observation on local weather at the intended landing areas and their communication to flight crew particularly in hilly terrain, are preferred to ensure safety of operations.
 - 5.7 If the helicopter landing area is situated within aerodrome traffic zone or aerodrome control zone of a public aerodrome, the coordination procedure with the air traffic control at the concerned aerodrome shall be specified in the SOPs.
 - 5.8 Helicopter parking areas normally should not lie under an approach/departure surface and preferred under the transitional surfaces.
 - 5.9 The parking position must be located to provide a minimum distance between the tail rotor arc and any object, building, safety area, or other parking position shall be according to the requirement laid down in para 3 of the CAR Section 4, Series B, Part-III.
 - 5.10 Necessary arrangement for picketing /mooring of helicopter shall be made for night parking as well as at helipads located in the hilly terrain, likely to be affected by strong winds/weather.
 - 5.11 First aid facility as minimum medical requirement may be provided at the landing site and also arrangements with locally available medical facilities should be made to deal with emergencies.
 - 5.12 The requirements laid down in other CARs/ circulars depending on the type of operations shall also be complied for the safe operation of the helicopter.
 - 5.13 In case the landing site is used by more than one operator, necessary arrangement for coordination of arrival/departure of flight shall be done amongst the operators and in such case establishment of two way

communication is preferred. Daily briefing of all aircrews must be ensured prior to commencement of flying and record to this effect shall be maintained.

- 5.14 At sites used by multiple operators, helicopter operators either individually or jointly shall designate or assign the responsibility to a person, for monitoring helicopter operations and ensuring safety.

6. Preparation of SOP

- 6.1 An SOP shall be prepared indicating the facilities, operational procedures and other requirement applicable to the helicopter operations from/to the site in accordance with the guidelines provided in the subject and approved by Helicopter Division/FSD. The SOP shall be made available on board during operation for use by the flight crew and they will be familiarized with the SOP before commencement of operation.

- 6.2. The SOP shall also include;

- i. Emergency Response Plan of the helicopter operator defining duties and responsibilities of individuals engaged in helicopter operation. The emergency plan shall include the telephone numbers and persons required to be contacted in case of emergency within the organisation and outside the organization shall also be identified. List of such numbers shall be provided to all concerned.
- ii. Information concerning the search and rescue services in the area over which the helicopter will be flown, nearest Alert Post and Rescue Coordination Centre and procedure for co-ordinate with them.
- iii. Safety assessment of operating environment at landing sites, en-route, and terrain and mitigation measures required thereto.

- 6.3 The SOP shall be updated to include any changes in the operating environment.

7. Passenger services facilities and Security requirements

- 7.1 The Operator shall ensure arrangement for minimum facilities/ amenities for the passenger facilitation.

- 7.2 Necessary arrangements shall also be made available for escort of passengers to and from the helicopter landing site.

- 7.3 The weighing machine shall also be made available for accurate calculation of pay load in to the helicopter before each flight.

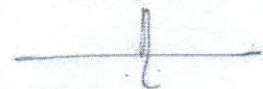
- 7.4 The helicopter operator shall ensure that security and anti-hijacking arrangements are made as per his approved Security Manual and norms issued by BCAS from time to time in this regard.

8. Procedures to be followed by the Operator

- 8.1 The Helicopter operator before commencing the operation from such place shall ensure that the minimum facilities and other requirement laid down in the CAR are available at the landing site.
- 8.2 The Helicopter operator when assigning the responsibility for ensuring availability of minimum safety requirements partially or in-toto to any other agency, shall ensure that the facilities required at landing sites for the operation purpose are made available by such agency on continuous basis during the operation.
- 8.3 Helicopter operator shall ensure that the agency assigned with the responsibility has adequate qualified persons to maintain the facilities in desirable manner.
- 8.4 Operator shall carry out periodic audit/ inspections to ensure compliance of minimum facility during the period of operations as part of his Safety Management System.
- 8.5 The flight crew shall also monitor availability of facilities during operation and in case of non-availability/unserviceability, shall initiate action for its compliance.

9. Action by DGCA

- 9.1 The helicopter operator may initiate operations to such areas without prior approval of DGCA after ensuring the requirement contained in this CAR.
- 9.2 In case an NOC is required for such operation by local authority from DGCA for operations at such sites, the operator shall submit compliance report on all aspect contained in the CAR, for issue of NOC.
- 9.3 If required, such operations may be inspected by DGCA during the course of operation subject to the availability of resources. Facilitation for the inspection and transportation to such remote locations shall be provided by the operator.
- 9.3 The helicopter operator shall be liable for action if there are sufficient reasons to Indicate non-compliance of regulatory provisions.
- 9.4 Helicopter Cell shall be nodal agency for the purpose in DGCA.



(E. K. Bharat Bhushan)
Director General of Civil Aviation

**विमानन संचालनालय
केपिटल कॉम्प्लेक्स महानदी भवन,
मंत्रालय, अटल नगर, नवा रायपुर, (छ0ग0)**

क्रमांक 2 / विमा0 / संचा0 / राय / 2011

दिनांक 19.09.2011

प्रति,

जिलाधीश,
जिलाधीश कार्यालय,

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विषय- हेलीपेड की आवश्यकता के संबंध में।

1. छत्तीसगढ़ शासन द्वारा Agusta 109 E हेलीकॉप्टर का संचालन शासन के अति विशिष्ट व्यक्तियों व उच्चाधिकारियों तथा अन्य अति आवश्यक गतिविधियों के लिए जैसे नक्सल प्रभावित क्षेत्रों का निरीक्षण तथा राहत व बचाव कार्य भी शामिल है, किया जाता है। उक्त कार्यों के लिए शासन द्वारा किराए पर लिए गए हेलीकॉप्टरों की सहायता भी ली जा रही है। उक्त हेलीकॉप्टरों के सुरक्षित संचालन हेतु आवश्यकता अनुसार वर्तमान हेलीपेडों के विस्तार / नये उपयुक्त हेलीपेडों के शीघ्र निर्माण की आवश्यकता है। यह हेलीकॉप्टर की दीर्घकालीन उपयोगिता एवं संचालन की सुरक्षा सुनिश्चित करने के लिए आवश्यक है। धूल मुक्त हेलीपेड हेलीकॉप्टर के यंत्रों को खराब होने से बचाएंगे।
2. नई एवं विस्तृत सुविधाएं राज्य वायु परिवहन के विकास में योगदान करेगी जो प्रदेश के विकास में सहायक होगा। शासन के जिन स्थानों पर हेलीपेड का निर्माण किया जाना है उनकी जिलेवार सूची परिशिष्ट 'अ' में संलग्न है।
3. हेलीकॉप्टर की लैन्डिंग एरिया का विस्तृत रेखाचित्र इस पत्र के साथ संलग्न कर स्पष्टीकरण के साथ उपलब्ध किया जा रहा है जो परिशिष्ट 'ब' है।
4. उक्त विस्तृत विवरण (रेखाचित्र) प्रदेश में कार्यरत Agusta 109E हेलीकॉप्टर, Allouette (Chetak) एवं Bell 407 के संचालन तथा अवतरण को सुलभ बनाने में मददगार सिद्ध होगा इसके अतिरिक्त राज्य में उड़ने वाले वायु सेना / अर्ध सैनिक बलों के हेलीकॉप्टरों को तथा अन्य हेलीकॉप्टरों को भी इन हेलीपेडों से सुरक्षित अवतरण का लाभ प्राप्त होगा।
5. लैण्डिंग एरिया की माप वर्तमान, विशेषकर Agusta 109 E हेलीकॉप्टर की आवश्यकताओं को ध्यान में रखते हुए न्यूनतम माप है। राज्य के चतुर्मुख विकास के लिये राज्य में उपलब्ध अन्य सिविल एवं सैनिक हेलीकॉप्टरों की अवतरण योग्य हेलीपेडों के निर्माण की आवश्यकता महसूस की जा रही है। आपातकालीन लैण्डिंग तथा एक से अधिक हेलीकॉप्टरों का संचालन एक हेलीपेड से करने के लिए यह अति आवश्यक है। भारत देश में उड़ान भरने वाले अधिकांश हेलीकॉप्टरों की लिस्ट परिशिष्ट 'स' में उपलब्ध है। हेलीपेड की माप हेलीकॉप्टर की लंबाई (A) एवं चौड़ाई (B) पर आधारित है। राज्य में कार्यरत DGCA द्वारा स्वीकृत हेलीकॉप्टरों की लिस्ट (परिशिष्ट 'द') में संलग्न है। इनकी माप के अलावा से यह स्पष्ट होगा कि हेलीकॉप्टरों की अधिकतम लम्बाई 17.47 M (A) एवं चौड़ाई 3.81 M (B) है। साथ ही उनके लिये हेलीपेडों की लंबाई चौड़ाई तथा

6. दीर्घकालीन एवं एक से अधिक हेलीकॉप्टरों के उपयोग के लिये हेलीपेडों के निर्माण में निम्न बिन्दुओं को विचार में रखना आवश्यक है -
- अ/ परिशिष्ट 'ब' में दिये गये माप न्यूनतम है। हेलीपेड 05 टन वजन तक हेलीकॉप्टर एवं हेलीकॉप्टर संबंधित उपकरणों का वजन वहन करने में सक्षम हो।
- ब/ बड़े हेलीपेड बनाने/ हेलीपेड के भविष्य में वांछित विस्तार हेतु अतिरिक्त स्थान का प्रावधान करने का ध्यान रखना आवश्यक है (परिशिष्ट 'द')।

अतः उपरोक्तानुसार कार्यवाही करके इस कार्यालय को सूचित करने का कष्ट करें।

हस्ता/-
(सुबोध कुमार सिंह, आई.ए.एस.)
संचालक विमानन

अस्थायी हेलीकॉप्टर लैंडिंग क्षेत्र के विस्तार के मापदंड

1. A-109 E हेलीकॉप्टर के लैंडिंग क्षेत्र को निश्चित मापदंड के हिसाब से निम्न बिन्दुओं के आधार पर बनाया जा सकता हैरू-
- 2 Touch down and Lift off area (TLOF):- हेलीकॉप्टरों के लैंडिंग क्षेत्र तथा उड़ान क्षेत्रों का न्यूनतम माप 2B X 2B जहां B हेलीकॉप्टर के पहियों / Skid base की बाहरी चौड़ाई / पहियों की लंबाई, जो भी अधिक हो (संलग्नक 'ब' का अवलोकन करें) है साथ ही लैंडिंग क्षेत्र तथा उठान क्षेत्र (TLOF) हेलीकॉप्टर का भार वहन करने में सक्षम होना आवश्यक है।
3. Final Approach and Take off area (FATO) – हेलीकॉप्टर का उड़ान क्षेत्र FATO का न्यूनतम मापदंड 1.5A X 1.5A आवश्यक है जहां A हेलीकॉप्टर की अधिकतम लम्बाई है। हेलीकॉप्टर का उड़ान क्षेत्र तथा लैंडिंग क्षेत्र मूल अन्य बाधा जैसे कंकड़, प्लास्टिक की थैलियां आदि से मुक्त होना चाहिए यह सुरक्षित उठान व लैंडिंग के लिए अति आवश्यक है अन्यथा हेलीकॉप्टर की ईंजन आदि के लिये नुकसानदायक सिद्ध हो सकता है।
4. निशान (Marking) लैंडिंग क्षेत्र तथा उड़ान क्षेत्र के अन्दर हेलीपेड में सफेद पेन्ट से H का निशान बना होना आवश्यक है उक्त निशान पायलट को हेलीकॉप्टर सही जगह पर उतारने में मदद करता है H का न्यूनतम माप 3 मीटर और पहियों की चौड़ाई 4 मीटर कुल चौड़ाई 1.8 मीटर होना आवश्यक है। (संलग्नक 'ब' में अंकित चित्र 2 का अवलोकन करें) इस प्रकार का निशान किसी वायुयान या अन्य किसी व्यक्ति विशेष के लिए नुकसानदायक न हो इस बात का विशेष रूप से ध्यान रखना चाहिए।
5. हवा का दिशा दर्शक (Wind Direction Indicator / WDI) WDI FATO के पास ऐसी जगह में स्थित होना चाहिये जहां से यह हेलीकॉप्टर को उपर उड़ते समय एवं FATO पर खड़े हुए साफ साफ दिखता रहे। WDI का स्थान खुला हुआ होना चाहिये जहाँ पर आस पास की किसी बाधा / इमारत अथवा हेलीकॉप्टर से हवा की दिशा प्रभावित न होती हो।
6. सुरक्षित स्थान (Safety Area/ SA) FATO /TLOF सुरक्षित क्षेत्र के अन्दर होना आवश्यक है। इसकी पट्टी चौड़ाई 10 मीटर से कम नहीं होना चाहिए। इस स्थान पर कोई अवरोध हेलीपेड के तल से एक मीटर से ऊंचा नहीं होना चाहिए। हेलीपेड के उपरी सतह पर भी कोई अवरोधक नहीं होना चाहिए ताकि उड़ान एवं इमरजंसी लैंडिंग सुरक्षित हो।

(FATO /TLOF & SA के संलग्नक 'स' में अंकित चित्र का अवलोकन करें)।

7. Approach and Take off Climb surface उड़ान क्षेत्र का स्थान तिरछा तल होता है जो हेलीपेड के सेपटी एरिया के किनारे से 8% तक उपर की तरफ उठता हुआ होता है एवं हेलीपेड की मध्य रेखा के दोनो ओर समान रूप से होता है। इस तल के लिये निम्न आवश्यक हैं -

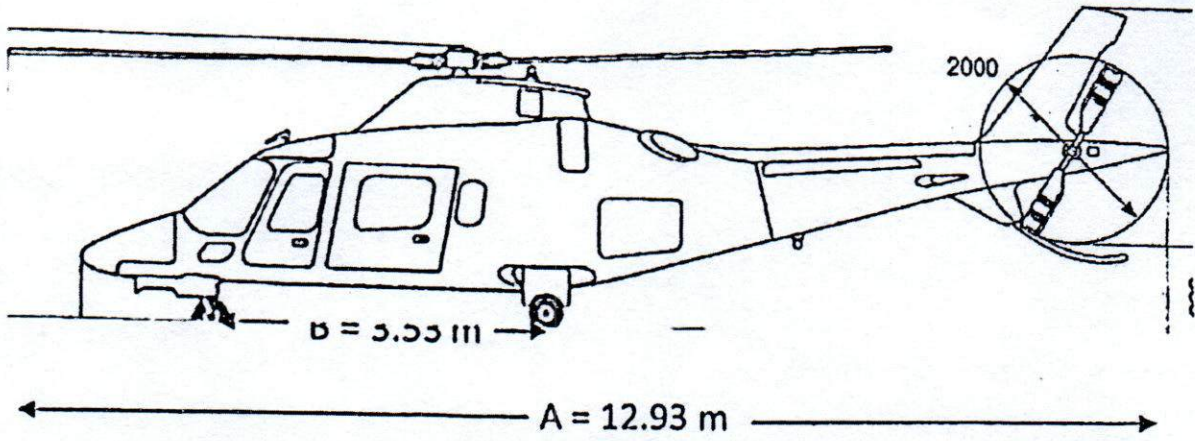
अ/ Approach and Take off तल के अन्दर का किनारा न्यूनतम समतल दूरी है जो उड़ान क्षेत्र तथा लैंडिंग क्षेत्र की माप के बराबर है यह दूरी मध्य रेखा के लम्बवत नापी जानी चाहिए तथा यह सुरक्षित क्षेत्र के बाहरी सीमा पर स्थित होनी चाहिए।

ब/ दोनो तरफ की सीमा रेखा सुरक्षित क्षेत्र की सीमा शुरू होती है और समान रूप से बाहर की ओर 10% के अनुपात में लम्बवत तल से जिसमें FATO की मध्य रेखा है बाहर की ओर फैलती है।

8. हेलीपेड को उपयोग करने से पहले हेलीपेड के TLOF area को सुरक्षित करना आवश्यक है। इसके लिये स्थल का परिसीमन (Fencing) Fragile material से करने की आवश्यकता है जिससे उस स्थान में कोई अवांछित व्यक्ति, वाहने तथा पशु आदि प्रवेश न कर सके ।

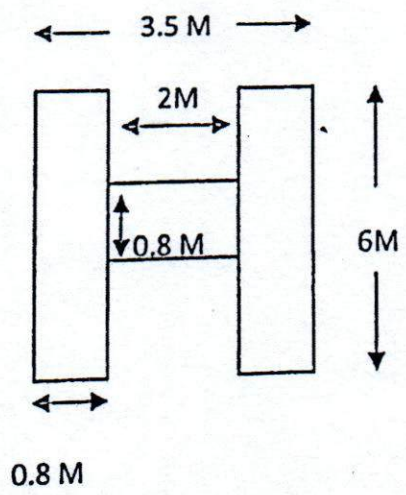
किसी सार्वजनिक कार्यक्रम जैसे कि मेला जलस या खेल आयोजन से संबंधित

Appendix B
(Refers to Para 3)



State Govt Helicopter: A - 109 E

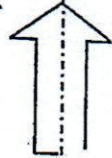
Fig 1



Helicopter Landing area Identification Marking

Fig 2

Take off climb/
Approach Surface
(Para 7 above).



Z

Approach &
Departure Sector

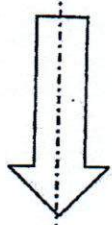
Helicopter
Landing Area
Identification
Marking
(Para 4 above).

Helicopter Landing
Area (Para 2 above)
Min- 2B x 2B
Refer Fig 1

Final Approach & Take
off Area (Para 3 above)
Min- 1.5 A x 1.5 A
Refer Fig 1

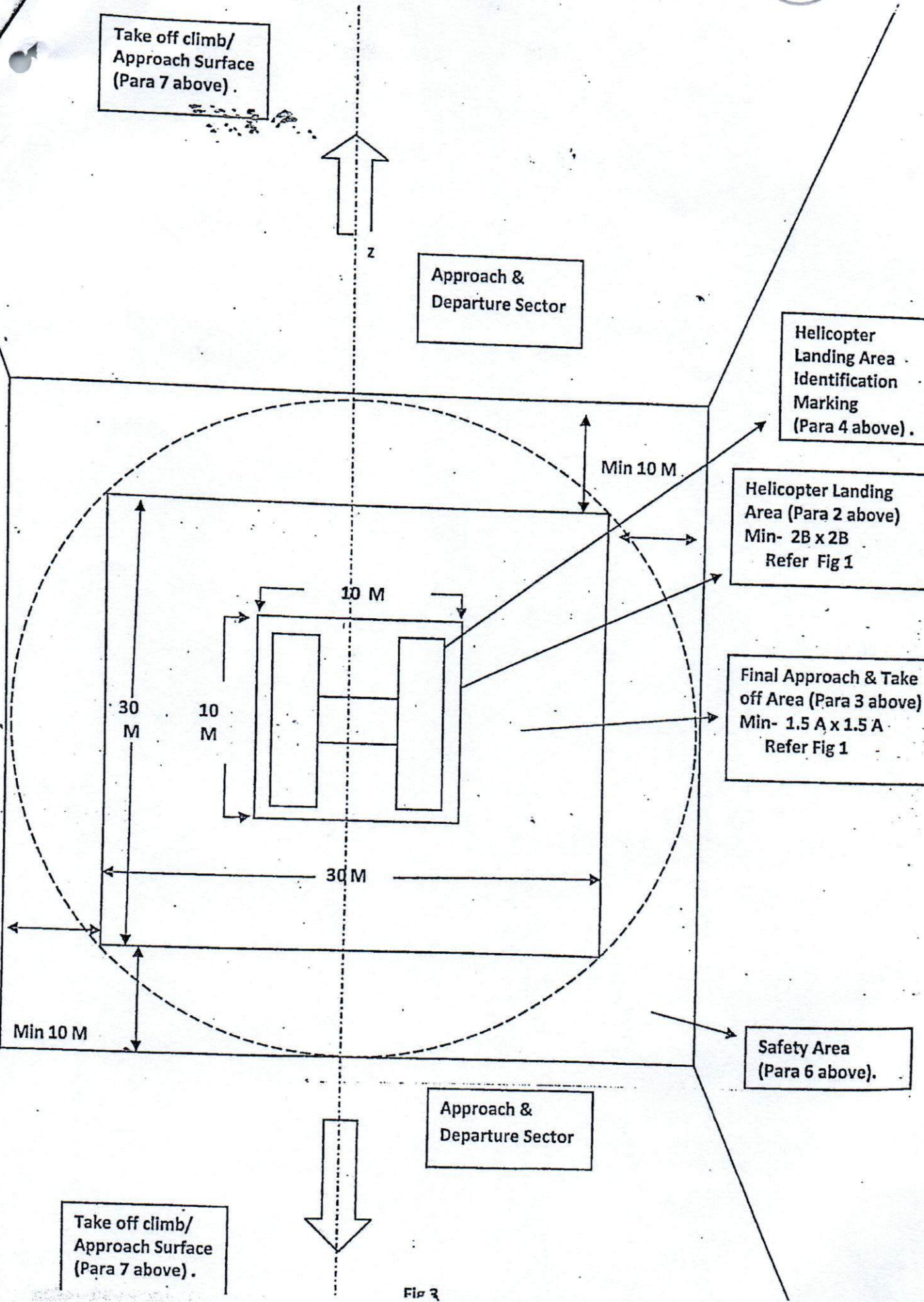
Safety Area
(Para 6 above).

Take off climb/
Approach Surface
(Para 7 above).



Approach &
Departure Sector

Fig 3



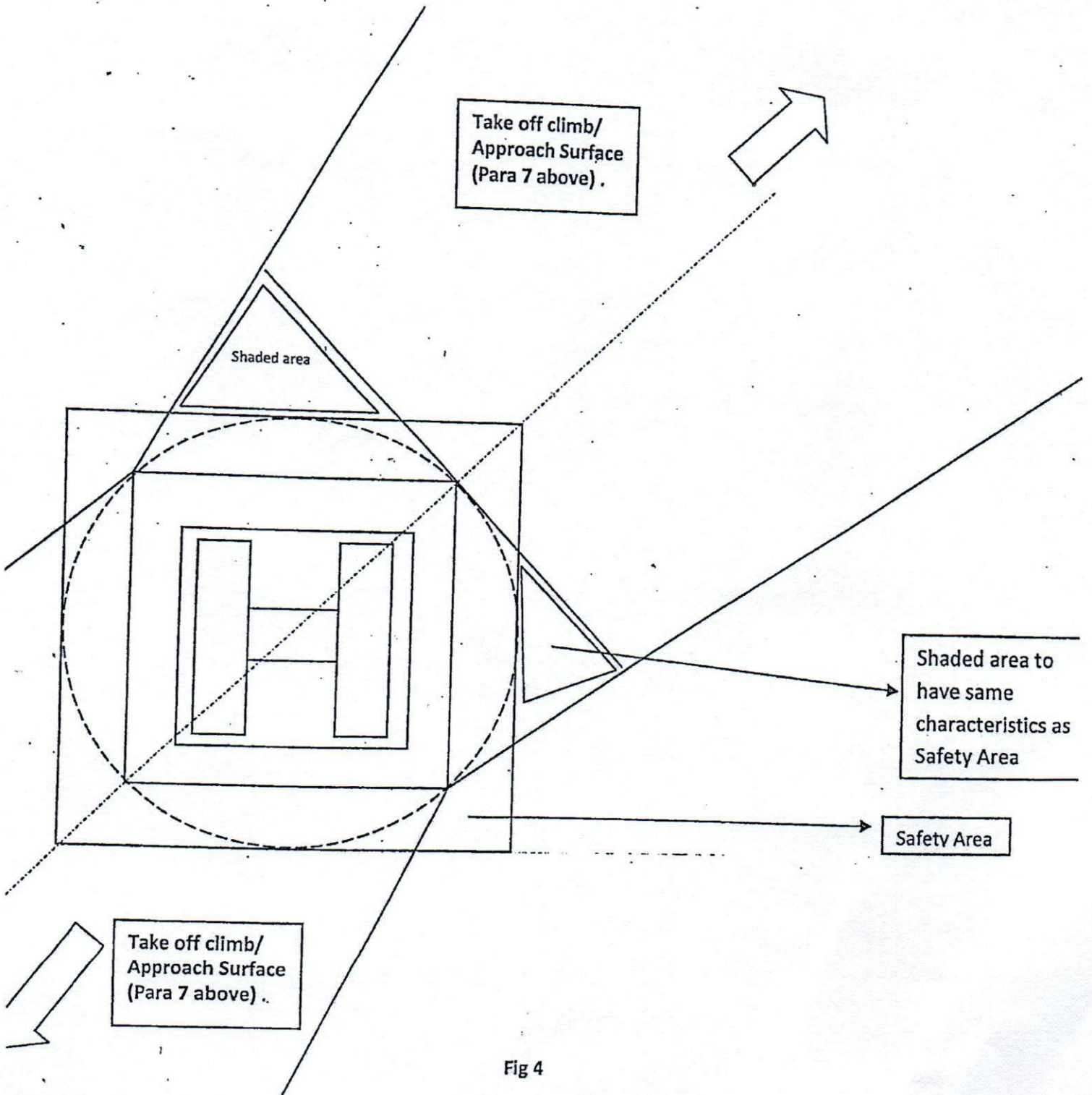
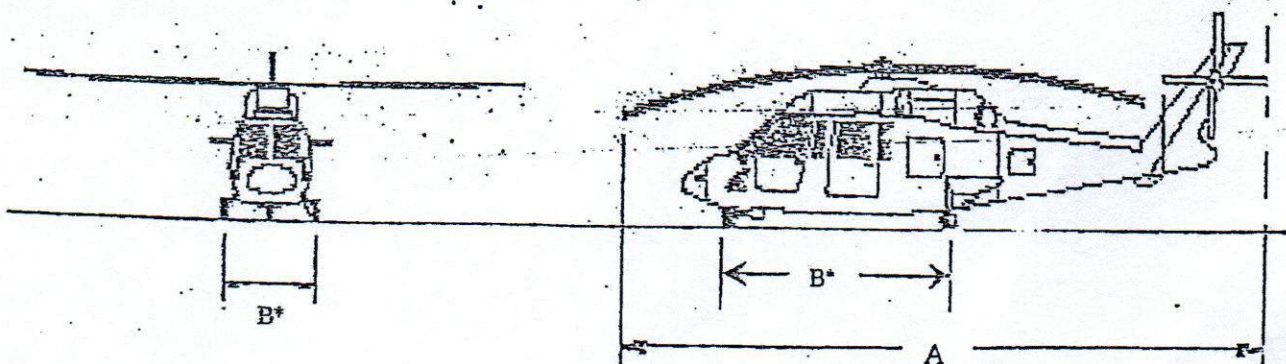


Fig 4

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DIMENSIONS OF SOME COMMON INDIAN REGISTERED HELICOPTERS

Type	Over all		Under Carriage 'B'		
	Length "A"(m)	Height (m)	Type	Length (m)	Width (m)
355	12.99	3.15	Skid	2.91	2.10
LL 206 B3	11.91	3.16	Skid	2.52	2.07
LL 206 L3 & L 4	12.95	3.13	Skid	3.01	2.34
LL 212	17.47	3.84	Skid	3.68	2.68
LL 230 HELICOPTER	15.30	3.65	Wheel/Skid	3.71	2.37
LL 407	12.74	3.32	Skid	3.01	2.28
LL 412 EP	17.37	4.57	Skid	2.40	2.53
LL 430	15.30	4.02	Wheel/skid	3.81	2.53
LL 47	13.41	3.04	Skid	3.01	2.28
EETAH SA 315	12.94	3.35	Skid	3.29	2.37
LLUETTE III SA316B	10.17	2.96	Wheel	3.50	2.59
UPIN AS 365N3	13.73	4.06	Wheel	3.64	1.89
135 T1	12.19	3.50	Skid	3.2	2.01
UREUIL AS350	12.93	3.34	Skid	1.43	2.28
ROCOPTER EC 130	12.64	3.60	Skid	3.2	2.40
KORSKY S 76C	16	4.41	Wheel	5	2.44



*Whichever is more shall be taken as 'B' for the purpose of T1 OF dimension