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CIVIL AVIATION AUTHORITY OF NEPAL

Head Office, Babar Mahal, Kathmandu, Nepal



Ref. No.:

Date:

Flight Safety Standards Department

FOD-075/76
Cha No. 211

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Advisory Circular 07/18

13th Sept. 2018

To,
Operations Department,
All Helicopter Operators

Subject: Advisory Circular

Reference to the Safety Assessment of Helicopters carried out by CAA Nepal inspector at Nepalgunj Airport, Simikot Airport and Hilsa Helipad from 22-24 Aug 2018. FSSD CAAN has developed and issued Advisory Circular No. 07/2018, Advisory circular for safe operations of helicopter as per CAA Nepal decision dated 4th Sep 2018. Please find the attached Advisory Circular for your reference and necessary Action

Deepak Kr. Lama
Dy. Director
Flight Operations Division

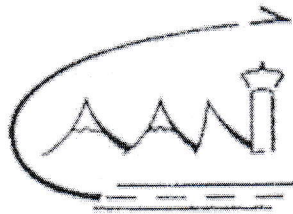
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CIVIL AVIATION AUTHORITY OF NEPAL
FLIGHT SAFETY STANDARDS DEPARTMENT

AC no- 07/2018

Subject- Advisory Circular for safe operation of helicopter

Issue 01

Revision NIL

August 2018

1. INTRODUCTION

Helicopters are versatile machines that can perform various tasks in various terrain and weather conditions. However, special care must be taken while operating these machines during such conditions. Nepal has unique helicopter operation in the world due to the terrain, elevation and challenging weather. This advisory circular has been prepared by Civil Aviation Authority of Nepal after undertaking several visits to the areas of operations like Simikot, Hilsa, Lukla etc. where there is fast turnaround time. The industry feedback has also been taken into account while drafting this circular. Comprehensive meetings, participated by key post holders of all helicopter operators, were organized by CAA Nepal that suggested various measures to be taken for safe operations of helicopters in Nepal. This circular will be further updated when deemed necessary. CAA Nepal will further update this circular that will encompass safety critical operations like external load operations, high altitude flight operations, confined space operation etc. in coming days. All stakeholders are welcome to provide their feedback to further improve this circular to achieve our common goal of safer Nepalese sky. CAA Nepal reiterates its firm commitment towards the safety of aircraft, occupants and property.

2. OBJECTIVE

All helicopter operators strive for the safe operation of flights following the mandatory requirements from CAA Nepal as well recommendations from respective helicopter manufacturers. However, due to scope and complexity of operations in each operating environment, such standard operating procedure requires to be customized taking into account local limitations. This Advisory Circular (AC) provides information and guidance regarding the safer operation of helicopter in Nepal.

3. STATUS OF AC

This is the first issue of the advisory circular of its kind and will be updated in its future issues incorporating additional safety critical operations. This circular should complement the operations manual/training manual and standard operating procedure and should be read with them; not in isolation.

4. APPLICABILITY

This AC applies to all Nepalese helicopter operators and employees working in Nepal and abroad as well. In addition, the recommendation listed will be applicable not to the specific airport or areas of operations; rather it will be applicable to all areas having similar nature of operation.

5. EFFECTIVE DATE

This AC will be effective from date of approval from Director General, Civil Aviation Authority of Nepal. This will remain valid unless superseded by newer version or cancelled.

6. REGULATORY REFERENCES

- (a) Civil Aviation Regulations 2002
- (b) Flight Operations Requirements-Helicopter
- (c) Helicopter operations to and from the elevated and hospital helipad

7. SAFETY RECOMMENDATIONS FOR SIMIKOT AIRPORT HELICOPTER OPERATION

7.1 All helicopter companies should assign a qualified flight dispatcher/flight operations officer at Simikot airport during frequent flight movements when PIC is not able to discharge the additional duties.

7.2 Storage of fuel should be away from current place where thousands of liters of ATF are stored in drums/jerry cans near the helicopter parking area posing fire hazard. Standard bladder type fuel storage in the upper terrace in the Simikot airport will be a safer place if gravity refueling is possible.

7.3 Refueling will only be allowed once the passengers have been disembarked. The PIC will always be in controls with crew chief monitoring the refueling process. Once the passengers are at a safe distance then only hot refueling will commence.

7.4 Refueling should be avoided during rain and drizzle. Precaution should be taken for the water contamination.

7.5 Hot refueling should be prohibited and precaution should be taken to turn off mobile phones and other electrical or electronic devices like battery card, HF Radio, chargers etc. that may produce sparks.

7.6 Open ATF refilling has higher chances of dust and moisture contamination and poses serious risk to for the single engine helicopters. A standard pump with at least 10 micron filter will be a better option.

7.7 Helicopter operators should arrange at least two trolley type fire extinguishers that should be serviceable all the times and should be ready for deployment. The local staffs must be trained how to use them.

7.8 Smoking should be strictly prohibited and airline trained ground staffs should warn the passengers to follow above instructions.

7.9 The passengers will only be allowed to board with the permission of the crew chief or PIC once the hot refueling is completed, fuel cap locked and any extra fuel is dispatched at a safe distance.

7.10 Clear placards must be displayed at the briefing area for passengers for the ground and flight safety.

7.11 PIC should brief the passengers about the hazards of the turning rotors and a system MUST be in place to ensure that the passengers are guided to the helicopter before flight and they MUST be escorted to the safe place after disembarking to ensure that he/she cannot go back to

helicopter again. In the event of PIC being busy or on control, the flight dispatcher should do the passenger safety briefing.

7.12 Foreign object check will be done by all company personnel everyday before every flight. PIC will be informed immediately if anything found wrong.

7.13 The turning rotors MUST always be guarded all the times by trained and certified airlines staffs if it is not possible to turn off the engine for embarkation and disembarkation of passengers.

7.14 The ground staffs MUST always wear ramp jacket with name tag on.

7.15 Ground staffs MUST be trained by the PICs for the safe ground handling of the flights. They should be properly assessed. They should be issued with training certificates and clear roles and responsibilities should be spelled out clearly to ensure the safe operation.

7.16 The operators should submit the lists of such staffs seven days after such training are imparted. If ground staffs other than these trained certified staffs are used in the real flight operations, it will generate serious finding during CAAN inspection, audit, spot check.

7.17 During passenger briefing, passenger weighing, any authorized personnel suspects the passenger not to be mentally, physically or physiologically in right condition, will inform the PIC or the dispatcher immediately. The PIC and the company personnel will decide if flying that passenger is a safety risk. In case it's deemed unsafe, the passenger will not be allowed on board.

7.18 Access to the helicopter parking should be restricted by the ground staff with help of local Airport Manager and local airport security.

7.19 Use of mobile phone and camera should be prohibited near the helicopter that may distract the passenger and may pose the fire hazard.

7.20 Any events , safety risk , hazards will be informed at the earliest to the ATC along to all flying crew in helicopter frequency at the earliest possible manner so that precautions can be taken promptly and immediately .

7.21 Before the first flight, all ground crew and pilots will do a pre briefing for that day. After the completion of that day's mission all members of ground, air and any person PIC approves important to this mission will do a de brief. All CAAN license holders will be responsible for the daily briefing and de briefing

8. RECOMMENDATIONS FOR HILSA HELIPAD

- 8.1 The boulders should be moved and placed at a considerable distance from the helipad area with help of local administration and security personnel.
- 8.2 The Nepalese Army memorial plaque must be properly removed and relocated so that it does not pose any obstacle to the pilot during take-off and landing. Nepal Army to be requested to relocate the plaque at a safer distance.
- 8.3 A minimum of 3 well trained marshallers and loaders is required per helicopter operator so as to ensure that the passengers are escorted safely to/from the helicopter and baggage are collected and placed in a secured area. Such ground staffs may be pooled by the operators to ensure the adequate number of staffs.
- 8.4 Shed to be set up in the North East side of the helipad for passenger arrival/departure point which will serve the purpose of baggage collection point as well.
- 8.5 While loading the baggage in the helicopter cabin, the ground staffs should secure the baggage properly in order to prevent it from inadvertently moving the collective lever.
- 8.6 The operator should have fire extinguishers placed in Hilsa so that immediate action can be taken in event of fire breakout. Local staffs should also be trained to use such extinguishers. A large size oxygen bottle should also be made available in event of passengers falling sick due to hypoxia.
- 8.7 There should be a fence constructed on the north side (riverside) of the helipad to prevent uncontrolled entry by passengers and locals onto the helipad. It should have separate entry and exit gates.
- 8.8 Cargo and baggage waiting to be boarded for the next trip to Simikot must not be placed in the helicopter landing area within the helipad.
- 8.9 Garbage management must be implemented to avoid foreign object damage. Options may be local management for the biodegradable garbage and ferrying the non-biodegradable garbage to Simikot by helicopters in return trip.
- 8.10 New construction must not be allowed in the immediate vicinity of the helipad that will affect the take-off and approach paths of the helicopters.
- 8.11 The operator should develop a ground handling procedure for passengers embarking/disembarking while rotor turning. The option would be to prohibit the embarkation/disembarkation of passengers with turning rotors and adequate guarding of turning rotors by dedicated ground staffs.
- 8.12 Buckets, shovels and pick axes to be made available.

9. GENERIC RECOMMENDATIONS

9.1 High tension line/transmission line avoidance procedure should be strictly followed and preflight briefing should be carried out before each flight. A detailed map has been already been published by CAAN to all helicopter operator to avoid the hazards posed by such lines.

9.2 Mandatory Helicopter passenger safety briefing before boarding should be carried and MUST be warned about the risks before EACH flight.

9.3 Mark approachable and unapproachable area in registered or usable helipad.

9.4 Follow heli-lane properly. The existing lane should be reviewed in the current context.

9.5 Helicopters should report the local ATS unit for the position. In case the PIC cannot the ATS unit the message should be relayed through operation department of the company.

9.6 Strictly follow airspace regulations, don't fly restricted area.

9.7 Please use security personnel for baggage check etc. in border area, monastery, temples or national parks etc.

9.8 Rooftop helipad operations- follow the CAAN Directive for helipad operations.

10 HELICOPTER OPERATIONS TO AND FROM THE ELEVATED AND HOSPITAL HELIPAD

10.1 General Operating Procedure

- a. In case of operating at elevated helipads, the helicopter shall be able to maneuver into wind and land safely following a power unit failure.
- b. Flight crew shall have final authority for safe landing and take-off at the hospital helipad.
- c. If no communications with the hospital staff a high and low recce of the site will be performed prior to committing to a landing.
- d. When operating in the vicinity of an airport the flight crew should avoid the flow path of fixed wing aircraft and ensure that landing path is clear.
- e. Before departing from hospital helipad, call ATC and give your departure intentions before take-off.
- f. Pilots should follow the any instruction or advice from the concerned ATS personnel.
- g. Always be cautious of obstacles especially the transmission wire and the pylons while flying low and during landing and take-off.
- h. During off-loading of patient the crews will maintain constant vigilance when rotor is running.

10.2 Crew Qualification for elevated helipad operation

Crew qualification for helicopter operation at elevated shall have meet the following criteria:

- a. Must have trained by IPs on landing techniques on elevated helipads.
- b. Shall have completed Initial Training before a pilot may conduct elevated helipad operations that includes a minimum of four landings and four take off at an elevated helipads.
- c. Shall have completed Recency training. A pilot should not operate to an elevated helipads unless they have carried out a minimum of two landings and two take -offs at the elevated helipads within the preceding 12 months. If the training conducted concurrently with the PPC to an elevated helipad, this may be considered as meeting this requirement, when the training has not been achieved, the pilot should establish recency by performing a landing and take-off at an elevated helipad with a Type Rating Instructor/Type Rating Examiner (TRI/TRE). When the pilot is qualified on more than one type it should be accepted that recency gained on one type will meet recency requirement on all types.
- d. Must have company as well as CAA authorization for execution of helicopter operations to and from elevated helipad.

10.3 Normal take-off and landing procedure

- a. Company shall develop normal take-off and landing procedures for each hospital helipad they wish to fly, especially for the elevated helipad. It shall include at least the following elements:
 - i. Identification of Approach Initiation Point and Decision Point (DP)
 - ii. Preferred approach and landing direction
 - iii. Circuit height
 - iv. Overshoot procedure
 - v. Obstacle (Hazard) identification techniques

- b. Before landing, the helicopter must be proved capable of doing Out of Ground Effect (OGE) hover with the existing all up weight and density altitude. An approach is to be made to a hover clear of the obstacles around the landing site.
- c. The approach to the Decision Point (DP) must be as slow and shallow as possible and preferable flat but no greater than 4.6° approach gradient with overshoot capability requiring no greater than 4.6° departure gradient.
- d. The rate of descent during the approach is to be minimal, especially below Effective Transitional Lift (ETL). If a Vertical Speed Indicator (VSI) is fitted, 300ft per minute is absolute maximum rate of descent allowed.
- e. The approach should terminate into wind, or at most 90 degrees out of wind with any cross wind on the preferred (most efficient) side for the helicopter type.
- f. Constant use of visual references is required to check drift and settling.
- g. They must contact appropriate ATS units prior to takeoff from the helipad and before joining the required track or Heli-lane (if exists). They shall not climb above 500ft AGL until advised or instructed by the ATS personnel.
- h. All the operators flying to a particular helipad, especially the elevated helipad shall have to follow the same procedure unless otherwise warranted by unfavorable or emergency situation.

10.4 Company requirement for the minimum dimension of helipad

- a. The company must appropriately determine the minimum dimension of helipad and surrounding safety area required for the surface level and the elevated helipads in their SOP.
- b. The flight crew must not operate into any such helipads which do not meet the above criteria.

10.5 Weather and status briefing of the helipad

- a. The flight crew must take weather and status briefing of the helipad before the flight on such helipad. For this, helicopter operator shall have established a mechanism for the exchange such information with the hospital helipad operator.
- b. If feasible or possible, they may request appropriate ATS unit for visual observation towards the helipad.

10.6 Communication and Coordination procedure with the hospital helipad

- a. The helicopter operator must have developed coordination procedure to communicate with the helipad operator for the exchange of information such as flight movement data, weather, operational status of helipad and any other useful information.
- b. A VHF radio should be used to provide arriving helicopter with weather, helipad conditions and traffic information but should not be used to control the air traffic. The hospital should contact CAAN and concerned ministry for information on VHF radio licensing.

10.7 Emergencies operation at the helipad

- a. Helicopter operator shall have developed an emergency operating procedure for each helipad they wish to operator.
- b. Such emergency procedure shall include aborted take-off and landing manoeuvres taking into consideration of minimum harm to the helicopter, its occupants and the third party.

c. In the event of an engine failure, helicopter would minimize the risk of injury or damage to property on the ground.

10.8 Noise abatement issue

a. Helicopter operations, by their nature, are generators of considerable noise. Operators shall consider the effect of such noise when planning and conducting operations, particularly repetitive operation at the same area.

b. The take-off and landing phases of flight generate the greatest noise, so operation shall be planned to minimize the effect of such noise during these phases of flight wherever possible.