



IADC
SOUTH CENTRAL
ASIA CHAPTER

International Association
of Drilling Contractors
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26th October 2018

Directorate General of Civil Aviation
Aurobindo Marg, Opp. Safdarjung Airport
New Delhi - 110 003

Kind Attention: Shri B.S. Bhullar, Director General, DGCA

Dear Sir,



Subject: Requesting amendment of CAR & Joint SOP, for waiver of fitting Helicopter Approach Path Indicator on helidecks of Mobile Offshore Drilling Units for Night Medevac approvals and acceptance of a phased fitting of new 'Aiming TD/PM Circle & H lighting' scheme, as per CAP 437 specifications

References:

- 1) DGCA letter dated 4th August 2017, addressed to Helicopter Operators regarding the subject "Approval of VFR by Night for Offshore Medevac Helicopter Operations";
- 2) DGCA Notice F.No.9/11/2017-IR dated 5th September 2017, outlining the "Procedure for seeking exemption from Civil Aviation Requirements";
- 3) IADC SCA letter dated 12th January 2018, inter alia seeking relaxation up to 31st December 2018, for fitting of Helicopter Approach Path Indicators (HAPI) on Mobile Offshore Drilling Units (MODUs) for Night Medevac approvals;
- 4) DGCA Circular No. AV 22031/55(H)/2014-FSD (Vol 1) dated 1st February 2018 providing the "Joint Standard Operating Procedure, Night Medical Evacuation Operation (Helicopters Offshore)";
- 5) IADC SCA meeting with Dy. CFI (H) on 31st January 2018 and follow-up email correspondence with DGCA officials at Delhi and Mumbai, on 1st February 2018, 16th March 2018 & 13th April 2018;
- 6) RWSI Safety Symposium on "PROSPECTS & CHALLENGES IN SAFE HELI OPS (OFFSHORE)" held on 6th September'18, at the Airforce Auditorium, Subroto Park, New Delhi;

The IADC South Central Asia Chapter (IADC SCA) based in India functions under the aegis of the International Association of Drilling Contractors (IADC), Houston, USA, which is a trade association representing the interests of drilling contractors operating worldwide.

IADC serves as a forum for the upstream oil & gas drilling industry stakeholders. We routinely engage with government officials and regulators and strive to develop a dialogue on issues critical to the industry to advocate for best regulatory practices.

IADC shares the Directorate General of Civil Aviation's (DGCA) concern for sustaining helicopter safety and enhancing the operational integrity of these aircraft. While IADC appreciates the efforts of the DGCA in its plans for the revision of relevant Civil Aviation Requirements (CAR), IADC SCA has previously expressed its concerns related to provisions addressing the installation of Helicopter Approach Path Indicators (HAPI) on Mobile Offshore Drilling Units (MODUs) for Visual Flight Rules (VFR) by Night for Offshore Medevac. As stated in its letter dated 12th January 2018, the IADC SCA had petitioned for reconsideration of this particular requirement aiming for additional review of this issue by December 2018.

In an interest to facilitate this effort, IADC SCA members met with the concerned DGCA officials on 31st January 2018 to explain the implications and constraints that would confront offshore stakeholders should the above referenced provisions enter into force. DGCA subsequently approved the "JOINT STANDARD OPERATING PROCEDURE, NIGHT MEDICAL EVACUATION OPERATION (HELICOPTERS OFFSHORE)", dated 1st February 2018.



The relevant part of this Joint SOP is reproduced below for ready reference:

“PART F: GROUND EQUIPMENT:

The helideck owner shall establish reliable weather reporting capabilities by installing an Automatic Weather Station (AWS) at designated offshore installations. These AWS are to cover the area encompassing all the helidecks envisaged for VFR operations by Night. The AWS shall be capable of detecting the following data:

- a) Cloud ceiling / base.
- b) Visibility.
- c) Wind Speed / Direction.
- d) Significant weather present in the area such as Thunderstorms, Heavy Rain.

Further the helideck owner shall also install / ensure availability of the following:

- a) A Glide Path Indicator (GPI) / Helicopter Approach Path Indicator (HAPI) at all Offshore Installations that would require VFR by Night operations for medevac.
- b) Serviceable NDB.
- c) Illuminated wind sock.
- d) All obstructions in the vicinity of the helideck to be illuminated with obstruction lights.
- e) Standard marking and lighting of the helideck as per CAR 4/B/III. (Guidance may be taken from the latest UK CAP 437).

These facilities are to be installed at the earliest in a time frame accepted by the DGCA.”

After receiving this Joint SOP, IADC SCA has concluded a detailed study on this matter and has noted certain observations and substantial concerns with respect to the requirement for Glide Path Indicator (GPI) or Helicopter Approach Path Indicator (HAPI) installations onboard MODUs for VFR for night medevac. Kindly see the resulting observations and concerns summarized below.

Observations & Concerns:

- 1) The Joint SOP states that “Standard marking and lighting of the helideck as per CAR 4/B/III” and “Guidance may be taken from the latest UK CAP 437”.
- 2) One of specifications for the Helicopter Approach Path Indicator (HAPI) as per Clause 5.3.6.5 in CAR 4/B/III is “The light unit(s) shall be frangible and mounted as low as possible.” The simplest dictionary meaning of frangible is “readily or easily broken (*Merriam-Webster*). As per Wikipedia “A structure is frangible if it breaks, distorts, or yields on impact so as to present a minimum hazard.”
- 3) When the latest 8th edition of UK CAP 437 released in December 2016 was referenced for guidance on this matter, there was no mention about HAPI or GPI anywhere in the document.
- 4) CAP 437, Specification for helideck lighting scheme comprising perimeter lights, lit touchdown/positioning marking and lit heliport identification marking clause C.52 states that “All lighting components and fittings should meet safety regulations relevant to a helideck environment such as explosion proofing (Zone 1 or 2 as appropriate) and flammability and be tested by a notified body in accordance with the ATEX directive or equivalent locally applicable hazardous area certification standards.”



- 5) Accordingly, the relevant part of ATEX 2014/34/EU Guidelines – 2nd Edition – December 2017 and the OFFSHORE HELIDECK DESIGN GUIDELINES prepared for the UK Health & Safety Executive in consultation with the UK Civil Aviation Authority (CAA), International Association of Drilling Contractors (IADC) and International Association of Oil & Gas Producers (IOGP) among many other organizations, were both checked.

The relevant part of clause 11.1.1 Hazardous Area Classification and Equipment Selection states that, "Although the helideck may be classified as a non-hazardous area under normal platform operating conditions, the specification and selection of electrical equipment used for helideck lighting systems, etc. should be suitable for use in potentially explosive atmospheres. This should ensure that the helideck could remain fully operational for evacuating personnel, providing prevailing conditions around the installation and at the helideck do not prohibit helicopter operations."

- 6) IADC SCA then verified the existing certification of the lighting equipment like perimeter lights and flood lights on the helidecks of some of the floater and Jack-up MODUs and found that they comply with "explosion proof" requirements and have relevant certification towards that effect.
- 7) Hence, any HAPI (being a helideck lighting equipment) to be fitted on MODUs should also be "explosion proof" with ATEX or equivalent certification, as per CAP 437.

However, as per CAR specifications, the HAPI has to be 'frangible', which are both diametrically opposite properties and extremely difficult requirements to be met, by any reputed manufacturer of such helideck lighting equipment.

- 8) Even if IADC SCA were to overlook the need to meet the CAR condition of 'frangibility', as informed earlier in January 2018, none of the potential HAPI vendors who were approached by IADC SCA members, could provide convincing proof or references of their past experience in fitting, operating, maintaining and providing after sales service of any HAPI equipment with explosion proof housing, turntable etc., especially on the MODUs.
- 9) Further, HAPI/GPIs have not yet been tested and proven on MODUs and its effectiveness, especially on floater MODUs is highly suspect, where additional practical difficulties like heave, pitch and roll of the MODUs are faced and the computers which control Dynamically Positioned floater MODUs are programmed to ensure that the DP MODU always faces the upwind direction, which will lead to the HAPI/GPI being partially not visible to the helicopter pilot (due to some of the obstructions in LOS sector), as the helicopter always approaches for landing on the DP MODU helideck, facing the upwind direction.

These practical aspects are expected to hamper the ability of the pilot to land a helicopter at night on a MODU, relying on the visual reference point provided by a HAPI/GPI, which is not an omnidirectional light source, unlike the new 'Aiming (TD/PM) Circle & H Lighting' scheme specified by CAP 437.

- 10) On 6th September 2018 a symposium was organized by Rotary Wing Society of India (RWSI) at Delhi where International Aviation Experts, DGCA officials and representatives of E&P companies like ONGC, Reliance and Cairn participated to discuss the topic of safe Night Medevac operations and offshore Helicopter operations safety.

The IADC SCA members also participated in this symposium and got the opportunity to interact with two of the renowned subject matter experts, Mr. Bob Sheffield of International Helicopter Safety Team (IHST) & Mr. David Leithner of Shell Aircraft and the two most important learnings from this seminar, based on their expert opinion are:



- a) HAPI will only give a "false sense of security", as it is not yet proved to be an effective solution anywhere else in offshore rigs & platforms; and
 - b) Installation of a HAPI is least in the order or priority of actions required to avoid or minimize night landing accidents;
- 11) Moreover, the 7th Edition of CAP 437 was issued in May 2012 and in this "the full and final specification for the Helideck Lighting Scheme comprising Perimeter Lights, Lit Touchdown/Positioning Marking (TD/PM) Circle and Lit Heliport Identification 'H' Marking was incorporated."
- 12) Thereafter, the 8th edition of CAP 437 was released approximately four and half years later in December 2016 and "this amendment was issued to present the final specification and the Installation arrangements for the Lit Touchdown/ Positioning Marking Circle and Lit Heliport Identification Marking."

The clause 4.22 of CAP 437, 8th edition states that:

"A new lighting scheme comprising a lit TD/PM Circle and a lit heliport identification 'H' marking has therefore been developed and is effectively mandated for operations taking place at night on the UKCS from 1st April 2018. This scheme, described in detail in Appendix C, has been clearly demonstrated to provide the visual cues required by the pilot earlier on in the approach, and much more effectively than floodlighting and without the disadvantages associated with floodlights such as glare. The CAA has therefore replaced the traditional floodlighting systems with the new offshore helideck lighting scheme meeting the specification given in Appendix C."

It is also noteworthy that the 8th edition of CAP 437 states that, UK CAA has no objection to the floodlighting being retained as a back-up option to the new lighting scheme.

- 13) The 8th edition of CAP 437, allowed for a period of 15 months' time from December 2016 up to March 2018, for compliance with the new "Aiming (TD/PM) Circle & H lighting" scheme.

Hence, it can be seen that CAP 437 has mandated the installation of the new lighting scheme with effect from 1st April 2018. It should be noted that these provisions entered into force only after properly demonstrating the effectivity of the new scheme of "Aiming (TD/PM) Circle & H lighting" after providing a total transition period of approximately 6 years from the outset of the new lighting scheme introduction in the 7th edition of CAP 437 in May 2012.

- 14) However, in comparison to CAP 437, the installation of HAPI/GPI has neither been tested nor proven suitable for offshore application. With an exceedingly short introductory time of 6 months beginning 4th August 2017, HAPI/GPI installations for the provisioning of MODUs were specified. In addition, the Joint SOP promulgated by DGCA seems to indicate that apart from HAPI/GPI installation, the new "Aiming (TD/PM) Circle & H lighting" are also required to be fitted leading to the seeming conflict as described above.

In view of the observations and concerns herein, IADC certainly cannot support the deployment of equipment and/or capabilities that clearly remain questionable and may very well compromise the safety of MODU helidecks.

Suggestions & Submissions:

IADC SCA finds installation of arrangements in compliance with the 8th edition of CAP 437 to provide an equivalent level of safety onboard MODUs in comparison to the intended function of HAPI/GPI equipment. IADC SCA fully supports the installation of the new "Aiming (TD/PM) Circle & H lighting" scheme, with these CAP 437 specifications, which have already demonstrated the desired effect for increasing the safety of offshore helicopter operations.



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Therefore, IADC SCA Chapter hereby requests amendment of Civil Aviation Requirements (CAR) to accept the new "Aiming (TD/PM) Circle & H lighting" scheme, as per CAP 437, in lieu of any requirement for installation of HAPI/GPI capabilities onboard MODUs deployed in Indian offshore areas. It is also requested that an "entry into force date" of this CAR amendment initially take effect for MODUs commencing new contracts after such a date. This will enable MODUs on current contracts to fulfill previously existing obligations after which this provision would be applied on subsequent contracts.

In the transition period after the above mentioned "entry into force date", as it pertains to MODUs on existing contracts, IADC SCA calls for the DGCA's continued acceptance of procedures for Night Medevac landing on MODU helidecks based on the present scheme of providing adequate visual cues on the helideck using perimeter lighting along with the flood lighting and by fluorescent painting of the "Aiming (TD/PM) Circle & H markings".

IADC SCA Chapter members would be very much obliged if DGCA can kindly consider the above suggestions and submissions and issue the amended CAR along with revised notifications/Joint SOP, at an early date.

Though we have compiled all the relevant information and have presented it in this submission, if required, the IADC SCA team can visit the DGCA office at Delhi, at a mutually convenient date in November 2018, in order to meet with the concerned officials and discuss this matter in detail.

Thanking you in anticipation of a positive and early response.

Yours Sincerely,

Jt. Secretary
IADC-SCA Chapter

Enclosures:

- 1) Relevant Extracts from "ATEX 2014/34/EU Guidelines" & "Offshore Helideck Design Guidelines";

Copy To:

- 1) Capt. Umesh Chandra Yadav, Dy. CFI (H), Flight Standard Directorate (Helicopter), Opp. Safdarjung Airport, New Delhi – 110 003;
- 2) Shri. Ratan Chakraborty, Executive Director – Chief Drilling Services, ONGC, 11 High Office Complex, Mumbai – 400 017;
- 3) Shri. NK Garg, Chief of Logistics, ONGC, 11 High Office Complex, Mumbai – 400 017;



Annexure 1:

1) Extracts from ATEX 2014/34/EU Guidelines – 2nd Edition – December 2017:

"Directive deals with the special risk of explosion and has one major aim to prevent "own potential sources of ignition" (Article 2(1)) of equipment and protective systems (as far as it has its own potential source of ignition) from becoming active. Beside Article 1(2) no restrictions are made with regard to local and technical conditions.

The probability of occurrence of the potential source of ignition determines the category. The technical requirements are summarised in Annex II 1.0.1; especially the 2nd indent describes the importance of the potential of the source of ignition. For this effect the place of installation is not decisive (see Article 1(1) (b) safety-, controlling-, regulation devices), but the possible effect of the potential source of ignition on a potentially explosive atmosphere.

In the light of these ideas the place of installation "in, at or beside" a potentially explosive atmosphere is not decisive for the application of Directive 2014/34/EU. The decisive fact is whether the potential sources of ignition of equipment are in contact – or have an interface – to a potentially explosive atmosphere, with the effect that the combustion may spread to the entire unburned mixture (see definition "explosive atmosphere", Article 2(4)). In this case the potential source of ignition is in the potentially explosive atmosphere."

2) Extracts from "OFFSHORE HELIDECK DESIGN GUIDELINES" clause 11.1.1 Hazardous Area Classification and Equipment Selection:

The relevant clause 11.1.1 Hazardous Area Classification and Equipment Selection from OFFSHORE HELIDECK DESIGN GUIDELINES prepared for the UK Health & Safety Executive in consultation with the UK Civil Aviation Authority (CAA), International Association of Drilling Contractors (IADC) and International Association of Oil & Gas Producers (IOGP) among many other organizations, reads as below:

"The helideck should be positioned at a safe location on an installation or group of installations, and under normal platform operating conditions be free from any potentially explosive atmospheres created by the platform drilling and production processes. In this respect the helideck should be located in, and classified as a non-hazardous area.

However, in the event of a process upset condition and where potentially explosive atmospheres (e.g. gas release) may occur, the effects of these events on the safety of helicopters and helideck operations should be fully taken into account in the installation safety case. Helideck safety systems such as automatically activated status lights or, where appropriate, equivalent 'manual' alerting systems should be in place, along with adequate platform emergency and communications procedures.

Although the helideck may be classified as a non-hazardous area under normal platform operating conditions, the specification and selection of electrical equipment used for helideck lighting systems, etc, should be suitable for use in potentially explosive atmospheres. This should ensure that the helideck could remain fully operational for evacuating personnel, providing prevailing conditions around the installation and at the helideck do not prohibit helicopter operations."