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NATO QUALIFICATIONS FOR HELICOPTER CONTROLLERS AT SEA

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Branch Head P&C

Edvardas MAŽEIKIS Major General, LTUAF Director, NATO Standardization Office NATO NATIONS
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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATIONS BY NATIONS
1	ITA, ROU, GBR
Annex B	FRA, ITA, GBR

Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

RECORD OF RESERVATIONS

NATION	SPECIFIC RESERVATIONS
FRA	Table 1B1: France will not provide 'Close/Advisory' control to non radar equipped helicopters in IMC described in table 1B-1 of Annex B, NATO Grades A-D Control Capability.
ITA	Para 0106 & Table 1B1: Italian Navy does not implement: - the figure of 'NATO Helicopter Controller (Non Tactical) [NATO HC(NT)]' described in the subject STANAG. due to consider the 'NATO Graded Controller' already available, with more and consolidated experience making unnecessary the training of the above mentioned figure, taking into account the limited financial resources (to see Paragraph '0106', Page '1-5', Chapter '1'); - grade 'A' and 'B' Controllers to provide Instrument Meteorological Conditions (IMC) Close Control/Advisory service (Day and Night) to Helicopter Non Radar Equipped (to see Table '1B-1' - section 'Helicopters Without Radar', Page 'B-1', Annex 'B'.
	Para 0102 & Table 1B-1: UK NATO Controllers will not provide 'Positive' service below 500ft AMSL to non radar and radar equipped helicopters in any weather conditions as described within Para 0102 and Table 1B-1 of Annex B, NATO Grades A-D Control Capability.
GBR	Para 0106: UK NATO HC(NT)U Controllers will be employed in accordance with Para 0106 of this publication, however, UK HC(NT) Controllers may provide 'Broadcast Control' to UK national aircraft that are operating independently on a tactical sortie, provided that NO tactical information is exchanged between aircraft and the HC(NT) Controller. Under these conditions 'Broadcast Control' must only be provided to a single national aircraft and on separate non-tactical frequency.
	Para 0106 & Table 1B-2: UK NATO HC(NT)U Controllers are not permitted to control 'solo' within a live environment unless accompanied by a qualified NATO graded controller.
ROU	The provisions of paragraph 0106 shall be not implemented due to the fact that helicopter controllers at sea qualifications include non-tactical controllers qualifications. National training framework programme shall assure the basic training for non-tactical controllers and the specific training for helicopter controllers at sea.

Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

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REFERENCES

- 1. NATO STANDARDIZATION COVERING DOCUMENTS
 - a. STANAG 1154 NATO QUALIFICATIONS FOR HELICOPTER CONTROLLERS AT SEA.
- 2. NATO POLICIES, DIRECTIVES AND GUIDANCE
- 3. RELATED DOCUMENTS
 - a. STANAG 7149 ATP-03.3.5.1 JOINT AIRSPACE CONTROL TACTICS, TECHNIQUES AND PROCEDURES.
 - b. STANAG 1173 ATP-01 VOLUME I ALLIED MARITIME TACTICAL INSTRUCTIONS AND PROCEDURES.

CONVENTIONS USED IN THIS PUBLICATION

CHANGE SYMBOLS

Revised text in changes is indicated by a black vertical line in either margin of the page, like the one printed next to this paragraph. The change symbol indicates added or restated information. A change symbol in the margin adjacent to the chapter number and title indicates a new or completely revised chapter.

WARNINGS, CAUTIONS, AND NOTES

The following definitions apply to warnings, cautions, and notes used in this manual:



AN OPERATING PROCEDURE, PRACTICE, OR CONDITION THAT MAY RESULT IN INJURY OR DEATH IF NOT CAREFULLY OBSERVED OR FOLLOWED.



AN OPERATING PROCEDURE, PRACTICE, OR CONDITION THAT MAY RESULT IN DAMAGE TO EQUIPMENT IF NOT CAREFULLY OBSERVED OR FOLLOWED.

Note: An operating procedure, practice, or condition that requires emphasis.

WORDING

Word usage and intended meaning throughout this publication is as follows:

'Shall' indicates the application of a procedure is mandatory.

'Should' indicates the application of a procedure is recommended.

'May' and 'need not' indicates the application of a procedure is optional.

'Will' indicates future time. It never indicates any degree of requirement for application of a procedure.

Chapter 1 – General Information

0101 Purpose and Scope

The purpose of this agreement is to adopt standard qualifications for helicopter controllers in a NATO force operating at sea. Participating nations agree to adopt standard qualifications for helicopter controllers in a NATO force operating at sea. Helicopter controllers are to be assigned one of four helicopter control grades in accordance with the qualifications laid down in this document.

R 0102 General

- 1. NATO graded helicopter controllers are qualified to control helicopters as follows (See notes following Paragraph 0102.1):
 - a. Grade ALFA Controllers may control helicopters at any time, in any weather.
 - b. Grade BRAVO Controllers may control helicopters at any time.
 - (1) In Visual Meteorological Conditions (VMC) (See Annex A).
 - (2) In Instrument Meteorological Conditions (IMC), however, the control methods close/positive, close/advisory and loose/positive are restricted to one helicopter.
 - c. Grade CHARLIE Controllers may control helicopters at any time:
 - (1) In VMC, however, the control methods close/positive, close/advisory and loose/positive at night are restricted to one helicopter.
 - (2) In IMC, however, the control methods close/positive, close/advisory and loose/positive are restricted to one radar-equipped helicopter.
 - d. Grade DELTA Controllers may control helicopters.
 - (1) In VMC, however, the control methods close/positive, close/advisory and loose/positive at night are restricted to one radar equipped helicopter only (See Note 1.d below).

Notes:

- 1. a. The terms and definitions of the types of Aircraft Mission and Safety Related Control are defined in ATP-03.3.5.1.
 - b. Other than under Broadcast Control, control means any combination of mission-related close/loose and safety-related positive/advisory control. A combination is normally required to control an aircraft tactically, but in exceptional circumstances either control form may be used in isolation. In this situation, only the definition associated with the single term being used describes the control being offered by the controller.
 - c. The appropriate safety related control to be given by a helicopter controller, irrespective of the degree of mission control in force, will be dependent upon airspace in use, sortie requirements and ship-borne equipment available.

- d. In accordance with Annex B, NATO Grade CHARLIE and DELTA controllers may provide NATO Advisory Control to helicopters in IMC for purposes of recovery. Positioning vectors and associated non-tactical control may be offered to facilitate a recovery; however, the aircraft commander remains ultimately responsible for collision avoidance and the aircraft's safety. Such positioning vectors shall be used to facilitate a recovery only and shall not be used for continuation of flight in IMC.
- e. 'Any time' means day or night.
- f. 'Any weather' means VMC or IMC.
- 2. For purposes of normal tactical employment in IMC, a non-radar equipped helicopter should operate under control method close/positive.
- 3. The maximum number of helicopters that may be taken under control by an individual controller is specified at Annex B.
- 4 Aircraft commanders are responsible for reporting whether IMC or VMC exists and all significant weather observations in the operating area to their controlling agency.
- 5. The term 'radar-equipped' is to be taken to mean: equipped with an all-round scan, high definition warning radar that is suitable for surface contact avoidance and weather information that is working satisfactorily and is being monitored by a competent operator.
- 6. Controllers may be embarked in a ship or aircraft.
- 2. When assigned to control in a tactical scenario, a graded NATO helicopter controller must have been qualified by a competent authority in the field of tactics pertaining to the designated mission. If the controller is not current in that field of tactics, then prior to assuming control for the mission, the Officer in Tactical Command (OTC) and the aircraft must be so informed.
- 3. When engaged in coordinated fixed-wing/helicopter operations in the principal forms of warfare other than AAW, it will be assumed that the grading of the helicopter controller includes the ability to exercise tactical employment of all fixed-wing aircraft in these operations under the necessary mission and safety constraints. When this responsibility cannot be accepted, the ship or aircraft, in which the helicopter controller is embarked, is responsible for so informing the Officer in Tactical Command (OTC).
- **Note.** Close control may be exercised over fixed-wing aircraft when they are required to conduct Vectored Attacks (VECTACs), Magnetic Anomaly Detection Verification runs (MADVECs), or whenever the aircraft commander requests it.
- 4. National authorities are to ensure that all helicopter controllers maintain a record of their live and simulated helicopter control time and also that the simulated helicopter controller training is supervised and evaluated by competent personnel. Simulated helicopter control is defined as control of helicopters in any trainer/combat control system capable of providing the required simulated video and communications.
- 5. The minimum standard of training required by NATO helicopter controllers is specified below:
 - **a. Theoretical Training**. Each controller must be trained to satisfy their national authorities that they have a working knowledge of the English language applicable to NATO helicopter mission control and safety services, and:

- (1) A general knowledge of the capabilities and limitations of radar and communications equipments.
- (2) A general knowledge of plotting procedures.
- (3) A good knowledge of the capabilities and limitations of fixed-wing aircraft that may become involved in helicopter operations.
- (4) A thorough knowledge of air control terms and definitions as described in ATP-03.3.5.1.
- (5) A general knowledge of environmental conditions (e.g. meteorology) as they affect helicopter operations.
- (6) A general knowledge of air traffic control procedures.
- (7) A good knowledge of the capabilities and limitations of helicopters which the controller might reasonably be expected to control.
- (8) A thorough knowledge of communications procedures used in aircraft control.
- (9) A thorough knowledge of helicopter emergency, search and rescue procedures.
- (10) A good knowledge of helicopter tactics and other tactics that may affect the helicopter in accordance with ATP-01, Vol. I.
- **b. Practical Training**. Each controller must demonstrate the capability for practical helicopter control, including the application of any appropriate safety related control, recovery and emergency procedures based on simulated and live control experience. As Fixed Wing/Rotary Wing cooperation is a common occurrence, training (live or simulated) in the tactical employment of fixed wing ASW aircraft is also required.

0103 Assessments

The Competent National Authority (CNA) decides the method by which assessments for the award and retention of NATO Helicopter Control Grades are conducted. In general, such assessments could be the checking of aircraft controller logs, theoretical tests, practical tests, or a combination of these.

0104 Qualifications for the Award of NATO Helicopter Control Grades

Each controller must satisfactorily complete the theoretical and practical training specified in Paragraph 0102.5, and have a thorough knowledge of the specific helicopter tactics as required by Paragraph 0102.2. Throughout this publication, live control refers to control of a helicopter under CLOSE or LOOSE mission control, or when an aircraft is operating under an appropriate safety service. BROADCAST mission control does not adequately reflect the necessary level of live control competence required to maintain or achieve NATO Helicopter Control Grades. Throughout this publication, control in a tactical situation refers to control of helicopters conducting an ASW, AEW or ASUW mission. Control of helicopters during SAR missions may also be included but must not constitute more than 20% of the minimum live requirements stated below. Tactical situation does not include control of helicopters conducting servicing flights, controlled approaches or aircraft conducting pure transit flights.

a. Grade DELTA. To qualify as a Grade DELTA controller the candidate must be assessed by a CNA as safe to control helicopters as laid down in Paragraph 0102.1.d.

The number of control hours required will be dependent upon aptitude, but a total of 10 hours control shall be a minimum, of which at least five hours must be live.

- **b. Grade CHARLIE**. To qualify as Grade CHARLIE, a Grade DELTA controller must be assessed by a CNA as capable of exercising safe control as required for Grade CHARLIE. A minimum of 10 hours control is required as a Grade DELTA of which five hours must be live.
- **c. Grade BRAVO**. To qualify as Grade BRAVO, a Grade CHARLIE controller must be assessed by a CNA as capable of exercising safe control as required for Grade BRAVO. A minimum of 15 hours control is required as Grade CHARLIE of which 10 hours must be in a live tactical situation.
- **d. Grade ALFA**. To qualify as Grade ALFA, a Grade BRAVO controller must be assessed by a CNA as capable of exercising safe control as required for Grade ALFA. A minimum of 20 hours control is required as a Grade BRAVO of which 15 hours must be in a live tactical situation.

0105 QUALIFICATION FOR THE RETENTION OF NATO HELICOPTER CONTROL GRADES

To retain an existing grade all controllers must be assessed annually by a CNA as capable of exercising safe control of helicopters to the requirement of that grade as specified in Paragraph 0102.1.

- a. In addition the following control hours are required annually:
 - (1) Grade DELTA: Two hours control (live or simulated).
 - (2) Grade CHARLIE: Six hours control, of which at least two hours must be live. In addition a minimum of one satisfactory Ship Controlled Radar Approach is to be conducted.
 - (3) Grade BRAVO/ALFA: Ten hours control, of which at least five hours must be in a live tactical situation. In addition, a minimum of two satisfactory Ship Controlled Radar Approaches or a minimum of two successful Emergency Low Visibility Approaches either AFCS or non-AFCS are to be conducted. On successful completion of assessment a controllers log book is to be endorsed and his/her grade is retained for a period of 12 months from the date of endorsement.
- b. If during an annual assessment or at any other time helicopter controllers show a need for more training or display ignorance of, or lack of responsibility for their duties, a CNA should downgrade, suspend or rescind the controller's qualifications.
- c. The requirement to be reassessed annually by a CNA applies to ALL grades of helicopter controller. Any controller who has not been reassessed within 12 months from the date of their last endorsement is to be downgraded to the next lower grade. In the case of a Grade DELTA, they are to have their control qualification suspended until reassessed by a CNA.
- d. Controllers who have been downgraded must be reassessed as capable of exercising safe control to the requirement of the higher grade as specified in Paragraph 0102.1 by a CNA before they can be upgraded. Controllers may be upgraded to their highest previously held grade (or any lesser grade) depending upon their assessed level of competence, and the completion of the control hours required for this new grade.

e. The retention of Grade DELTA by simulated control only, should not exceed five years. After this period of time a minimum of two hours live control should be practised to satisfy national authorities in the conduct of competent and safe live control.

R 0106 NATO HELICOPTER CONTROLLER (NON TACTICAL) QUALIFICATIONS

- 1. To enhance the operational capability (OC) of some NATO units, where a NATO-graded controller is not available, the NATO Helicopter Controller (Non Tactical) (NATO HC(NT)) qualification has been established. Subject to Aircraft Control Unit (ACU) limitations, a NATO HC(NT) graded controller is trained to provide Radar/Non Radar Services to one helicopter (Radar or Non-Radar equipped) in either IMC or VMC under the following circumstances.
 - a. Ship Controlled Approach (SCA).
 - b. Emergency Low Visibility Approach (ELVA).
 - c. Responding to, and providing effective control and liaison during aircraft declared emergencies.
 - d. Helicopters in transit to/from the ACU.
- 2. The minimum standard of training required by NATO HC(NT)s is specified below:
 - **a. Theoretical Training**. Each controller must be trained to satisfy their national authorities that they have a working knowledge of the English language applicable to NATO helicopter safety services and:
 - (1) A general knowledge of the capabilities and limitations of radar and communications equipments.
 - (2) A general knowledge of plotting procedures.
 - (3) A thorough knowledge of air control terms and definitions as described in ATP-03.3.5.1.
 - (4) A general knowledge of environmental conditions (e.g. meteorology) as they affect helicopter operations.
 - (5) A general knowledge of air traffic control procedures.
 - (6) A good knowledge of the capabilities and limitations of helicopters which the controller might reasonably be expected to control.
 - (7) A thorough knowledge of communications procedures used in aircraft control.
 - (8) A thorough knowledge of helicopter emergency.
 - **b. Practical Training**. Each controller must demonstrate the capability for practical helicopter control, including the application of any appropriate safety related control, recovery and emergency procedures based on simulated and live control experience.
 - **c. Provision of Service**. Subject to radar limitations, NATO HC(NT) controllers may only provide NATO Advisory or Broadcast Control. The controller may provide positioning vectors and associated control to enable an approach to be conducted; however, the aircraft commander remains ultimately responsible for collision avoidance and the safety

of the aircraft. Such positioning vectors shall be used to facilitate a recovery only and shall not be used for continuation of flight in IMC.

- **3. Qualifications for the Award of NATO HC(NT) Grade.** NATO HC(NT) students will receive an initial award from the CNA of NATO HC(NT)(Ungraded) (NATO HC(NT)(U)). Upgrade to NATO HC(NT) will be dependent on the NATO HC(NT)(U) achieving 10 hrs live control with one aircraft and achieving 20 SCA/ELVA approaches prior to being assessed by the CNA delegated authority.
- **4. Assessments**. The CNA decides the method by which assessments for the award and retention of NATO HC(NT) grade is conducted. In general, such assessments could be the checking of aircraft controller logs, theoretical tests, practical tests, or a combination of these.
- 5. Non Tactical helicopter controllers are qualified to control helicopters (Radar or Non Radar equipped) as follows:
 - a. NATO HC(NT) controllers may control one aircraft by day or night in VMC/IMC.
 - b. NATO HC(NT)(U) controllers may control one aircraft by day or night in VMC only.
- 6. To retain NATO HC(NT) grade all controllers must be assessed annually by a CNA as capable of exercising safe control of helicopters to the requirement of that grade, as specified in Paragraph 0106.2. In addition, two hours control (live or simulated) is required annually.

Annex A - Minimum Specifications for VMC

Reference: International Civil Aviation Organization (ICAO) Regulations Annex 2, Chapter 4.

1A.1. Except when operating as a special VFR flight, VMC flights shall be conducted so that the aircraft is flown in conditions of visibility and distance from clouds equal to or greater than those specified in the following table

Altitude Band	Airspace Class	Flight Visibility	Distance from Cloud
At and above 3,050m (10,000ft) AMSL	BCDEFG	8 km	1,500m horizontally 300m (1,000ft) vertically
Below 3,050m (10,000ft) AMSL and above 900m (3,000ft) AMSL, or above 300m (1,000ft) above terrain, whichever is the higher	BCDEFG	5 km	1,500m horizontally 300m (1,000 ft) vertically
At and below 900m (3,000ft) AMSL, or 300m	BCDE	5 km	1,500m horizontally 300m (1,000ft) vertically
(1,000ft) above terrain, whichever is the higher.	FG	5 km*	Clear of cloud and with the surface in sight

Notes:

- 1. * When so prescribed by the appropriate ATS authority:
 - a. Flight visibilities reduced to not less than 1,500m may be permitted for flights operating:
 - (1) At speeds that, in the prevailing visibility, will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision; or;
 - (2) In circumstances in which the probability of encounters with other traffic would normally be low, e.g. in areas of low volume traffic and or aerial work at low levels.
 - b. Helicopters may be permitted to operate in less than 1,500m flight visibility, if manoeuvred at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision.
- **1A.2**. **Class A Airspace**. Flight under Visual Flight Rules (VFR) in Class A airspace is not permitted at any time. In Class A airspace Instrument Flight Rules (IFR) apply at all times both day and night irrespective of prevailing meteorological conditions.

Annex B - NATO Helicopter Controller Qualifications Summary - Tables of Control Capability

Table 1B-1: NATO Grades A-D Control Capability

R

		DAY									NIGI	НT					
		VMC IMC					VMC			IMC							
		C/P	C/A	L/P	L/A	C/P	C/A	L/P	L/A	C/P	C/A	L/P	L/A	C/P	C/A	L/P	L/A
Radar Equipped	Α	2	2	3	3	2	2	3	3	2	2	3	3	2	2	3	3
Helicopters	В	2	2	3	3	1	1	1	3	2	2	3	3	1	1	1	3
	С	2	2	3	3	1	1	1	3	1	1	1	3	1	1	1	3
	D	2	2	3	3	0	0*	0	0	1	1	1	3	0	0*	0	0
Helicopters Without	Α	2	2	3	3	2	2	0	0	2	2	3	3	2	2	0	0
Radar	В	2	2	3	3	1	1	0	0	2	2	3	3	1	1	0	0
	С	2	2	3	3	0	0*	0	0	1	1	1	3	0	0*	0	0
	D	2	2	3	3	0	0*	0	0	0	0	0	3	0	0*	0	0

^{*} NATO Grade CHARLIE and DELTA controllers may provide NATO Advisory control to helicopters in IMC for purposes of recovery. Positioning vectors and associated non-tactical control may be offered to facilitate a recovery; however, the aircraft commander remains ultimately responsible for collision avoidance and the aircraft's safety. (See Paragraphs 0102.1, Note 1.d. and 0106.2.c.).

Table 1B-2: NATO Helicopter Controller Non Tactical (NATO HC(NT))and Non Tactical (Ungraded) (NATO HC(NT)(U)) Control Capability

R

		DA	ΑY	NIGH	Т		
		VMC	IMC	VMC	IMC		
		NATO Advisory or	Broadcast	NATO Advisory or E	roadcast		
Radar or Non Radar	NT	1	1	1	1		
Equipped Helicopters	NT(U)	1	0	1	0		

Notes:

- 1. Table 1B-1 summarises Chapter 1, Paragraph 0102.
- 2. The letters represent NATO Helicopter Controller grades.

- 3. The figures represent the number of helicopters of the specified type, which each grade of controller may normally take under the specified control method in each circumstance.
- 4. The number of helicopters which may be controlled under Broadcast Control is not specified, but will depend on the tactical situation. In accordance with ATP-03.3.5.1, Broadcast Control can be provided by a non-qualified operator who is prepared to provide target and tactical information vital to the accomplishment of the assigned task. However, if the controller is required to control aircraft at a higher level of control (i.e. Loose Advisory) then the total number of helicopters that can be controlled shall not exceed the maximum permissible for that level.
- 5. Table 1B-2 summarises Chapter 1, Paragraph 0106.5. It must be stressed that this control capability only applies in non tactical circumstances as detailed at Chapter 1, Paragraph 0106.5.

Annex C - National Procedures for the Control of Maritime Unmanned Air Systems

United Kingdom

1C.1. Due Regard and Unmanned Air Systems Safety Services.

- 1. The United Nations Convention on the Law of the Sea (UNCLOS) acknowledges the right of freedom of navigation and over flight on and above international waters, stating that these freedoms shall be exercised by all States with due regard for the interests of other States. The Convention on International Civil Aviation of 1944¹ provides for military operations of State aircraft in international airspace over the high seas that are outside of normal ICAO procedures. The condition prescribed in Article 3 stipulates there must be "due regard for the safety of navigation of civil aircraft". Article 8, similarly, requires each state "to insure that the flight of such aircraft without a pilot, in regions open to civil aircraft, shall be so controlled as to obviate danger to civil aircraft". The means of compliance are not further stated by the convention and are therefore left to the discretion of the signatory nation.
- 2. As stated above, signatory nations will have differing approaches to the provision of 'Due Regard'. The UK's approach to 'Due Regard' over its' Maritime Unmanned Air Systems (MarUAS) over water in international airspace is provided here as an example and is as follows². In international airspace outside the UK Flight Information Region (FIR) and Upper Information Region (UIR), flying not conducted under ICAO flight procedures should only be carried out under 'Due Regard' (operational prerogative of military aircraft). 'Due Regard' carries a personal responsibility on the part of the Aircraft Commander and/or handling pilot to maintain separation from other aircraft, vessels and objects (such as offshore platforms). In order to ensure an appropriate level of safety, flight under 'Due Regard' should only be conducted outside controlled airspace and subject to one or more of the following conditions:
 - a. Aircraft (= MarUAS) should be operated in VMC.
 - b. Aircraft (= MarUAS) should be operated within radar surveillance and under positive control of a surface or airborne radar facility.
 - c. Aircraft (= MarUAS) should be equipped with airborne radar and qualified operators sufficient to provide separation between themselves and other aircraft.
- 3. The UK achieves 'Due Regard' through Paragraph 2.b above. It provides a 'MarUAS Positive Control Service' by a qualified Aircraft Controller (AC) ensuring the Unmanned Autonomous Vehicle (UAV) does not infringe 5nm or 5000' on all other traffic, unless that traffic is in two- way communications with the AC, in which case these limits can be relaxed to 3nm or 1500'. Additionally, the MarUAS Aircraft Commander maintains constant two way communications with the AC.

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¹ "Chicago Convention", 9th Ed, 2006.

² UK Military Aviation Authority Regulatory Article 2307 Para 30.

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