

Issued as part of the process of public consultation by the CAA

# **NOTICE OF PROPOSED AMENDMENT**

**(NPA 01/20)**

## **AMENDMENT OF**

## **AIR NAVIGATION TECHNICAL**

## **REGULATIONS**

### ***ANTR PART I***

### ***(Definitions and Abbreviations)***

**Who this NPA applies to:**

It is anticipated that this proposal will affect the following groups in the aviation industry:  
Operators of Bahraini registered aircraft, aircraft engineering facilities and CAA staff

**AERONAUTICAL LICENSING DIRECTORATE**

**NOTICE OF PROPOSED AMENDMENT**  
*(NPA 01/20)*

*TABLE OF CONTENTS*

<b>Paragraph</b>	<b>Subject</b>	<b>Page No.</b>
1.	Introduction	3
2.	Objective	3
3.	Regulation Proposal	4
4.	Affect of Changes	4
5.	Presentation	4
6.	How to Submit Comments on This NPA	4
7.	Summary of Responses	5
8.	Response Sheet	6

# AERONAUTICAL LICENSING DIRECTORATE

## 1. INTRODUCTION

1.1 The Kingdom of Bahrain's aviation safety requirements are currently contained in the Civil Aviation Law and Air Navigation Technical Regulations. It has become CAA policy that the Air Navigation Technical Regulations will be gradually amended to reflect ICAO Annex SARPs and industry best practice (EASA). This NPA applies to Air Navigation Technical Regulations ANTR Part I (Definition and Abbreviations).

1.2 The purpose of this Notice of Proposed Rule Making (NPA) is to:

- (a) Continue the process of formal public consultation on proposed amendments of the Air Navigation Technical Regulations; and
- (b) Ensure the adequacy of regulations governing operations of CAA registered in accordance with ICAO SARPS and international best regulatory practices; and
- (c) Determine the effect on the aircraft operator of the proposed regulations.

1.3 The CAA now seeks comments on this proposal from the aviation industry and the concerned parties before proceeding further.

1.4 Abbreviations

NPA Notice of Proposed Amendment

SARPS ICAO Standards and Recommended Practices

CAA Civil Aviation Affairs of the Kingdom of Bahrain

## 2. OBJECTIVE

2.1 The objective of this NPA is to amend ANTR Part I to the existing regulations for compliance with ICAO Annex 6 Part I and Part III (SARPs).

2.2 A number of regulatory criteria have been identified to guide the development of the Air Navigation Technical Regulations. The criteria require that the new regulation should:

- (a) be clear, concise and unambiguous;
- (b) be consistent with the Kingdom of Bahrain's international obligations;
- (c) be harmonized with ICAO SARPS and European standards, unless unique CAA circumstances require otherwise;
- (d) be outcome-based, to the greatest extent practicable;
- (e) be cost effective or cost neutral; and
- (f) be enforceable.

## AERONAUTICAL LICENSING DIRECTORATE

### 3. REGULATORY PROPOSAL

- 3.1 The CAA considers that revision and modification of existing regulations along the lines of ICAO (SARPs) and industry best practice (EASA), is appropriate and consistent with CAA future objectives and regional harmonization.
- 3.2 The CAA considers that revision and modification of existing regulation along the lines of the European model is appropriate and consistent with future objectives and regional harmonization.
- 3.3 Amendment action is planned for **23 October 2020**.

### 4 AFFECT OF CHANGES

- 4.1 The persons affected by this NPA are:
- 4.1.1 Operators of the Bahraini registered aircraft;
  - 4.1.2 Engineering facilities; and
  - 4.1.3 CAA staff.
- 4.2 Effect on Existing Regulation. This NPA contains all of the necessary amendments for compliance with amended ANTR Part I to the existing regulations for compliance with ICAO Annex 6 Part I and Part III (SARPs).
- 4.3 The effect of the proposed new regulations is considered to be generally cost neutral, with greater operational flexibility and guidance.
- 4.4 There would be no additional change in CAA inspections and compliance with the proposed regulations will be monitored and enforced through normal CAA surveillance activity.

### 5 PRESENTATION

The complete proposed amendment to the ANTRs is issued to Bahrain operators and published on CAA Q-Pulse System.

### 6 HOW TO SUBMIT COMMENTS ON THIS NPA

The Notice of Proposed Amendment process is the CAA's method of notifying and seeking comment from industry and the public with respect to proposed changes to rules. All submissions are evaluated and assessed with a view to incorporating any necessary changes to the draft regulations prior to their formal promulgation as law. In order to simplify collation and summarizing of comments, it is requested that responses be made on the NPA Response Sheet provided (Refer page 6) or a copy of the sheet, with additional comments attached as necessary. Responses can be individual or from industry working groups. Written comments quoting NPA 01/20 should be forwarded by **23 October 2020** to the CAA by post to P. O. Box 586, Kingdom of Bahrain or e-mail to [Aerolicensing@mtt.gov.bh](mailto:Aerolicensing@mtt.gov.bh).

## **AERONAUTICAL LICENSING DIRECTORATE**

### **7 SUMMARY OF RESPONSES**

Subsequent to the closing date for comments, a Summary of Responses will be made publicly available in conjunction with the issue of the Final Rules for each Part. The CAA may contact persons in respect to submissions in order to clarify issues but is not obliged to individually acknowledge or respond to comments or submissions.

**AERONAUTICAL LICENSING DIRECTORATE**

**NPA 01/20 RESPONSE SHEET**  
**(ANTR Part I – Definitions & Abbreviations)**

Please return this response sheet by **23 October 2020** by post to P. O. Box 586, Kingdom of Bahrain, or e-mail to [Aerolicensing@mtt.gov.bh](mailto:Aerolicensing@mtt.gov.bh). Please indicate your acceptance or otherwise of the proposal by ticking [✓] the appropriate box below. Any additional constructive comments, suggested amendments or alternative action will be welcome and may be provided on this response sheet or by separate correspondence.

- The proposals are *acceptable without change*.
- The proposals are *acceptable but would be improved if the following changes were made:* (Please provide explanatory comment).

.....  
.....  
.....  
.....

- The proposals are *not acceptable but would be acceptable if the following changes were made:* (Please provide explanatory comment).

.....  
.....  
.....  
.....

- The proposals are *not acceptable under any circumstances.* (Please provide explanatory Comment).

.....  
.....  
.....  
.....

- Any other comments.

.....  
.....  
.....  
.....  
.....

Name.....Organization:.....

Address/Contact No:.....

Signed:.....Date:.....

Aviation Safety Rules & Regulations

# ANTR PART I

In compliance with ICAO Annex 6 Part I, 11th Edition July 2018:  
Amendments 43 and

In compliance with ICAO Annex 6 Part III, 9th Edition July 2018:  
Amendment 22 and

Consequential Amendments to ANTR OPS 1

## Bahrain CAA Publication Revisions Highlight Sheet

ANTR: PART 1       CAP:\_\_\_\_\_       TPM: \_\_\_\_\_

The following pages of ANTR Part I have been revised to ICAO Annex 6 Part I, 11<sup>th</sup> Edition July 2018 Amendments 43 and ICAO Annex 6 Part III, 9<sup>th</sup> Edition July 2018 Amendments 22.

Item	Paragraph number	Page	Reason
1	Foreword and Contents	i & iii	To indicate the current revision status
<b>Section 1</b>			
1	1.1 General Definitions	1-2	To incorporate 1. ICAO Annex 6 Part I, 11 <sup>th</sup> Edition July 2018 Amendments 43, Chapter 1 and 2. ICAO Annex 6 Part III, 9 <sup>th</sup> Edition July 2018 Amendments 22, Section 1, Chapter 1
2	1.2.1 Abbreviations	1-49	



**TEXT OF PROPOSED AMENDMENT TO THE  
AIR NAVIGATION TECHNICAL REGULATIONS (ANTR)**

**VOLUME 1 – FLIGHT SAFETY**

**ANTR PART I**

**DEFINITIONS AND ABBREVIATIONS**

**CONTENTS**

**SECTION 1 – DEFINITIONS AND ABBREVIATIONS**

**1.1 General definitions.....1-1**

.....

~~‘Aerodrome’ means a defined area on land or water intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.~~ means a defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

.....

~~‘Air Operator Certificate (AOC)’ means a certificate authorising an operator to carry out specific commercial air transport operations~~ means a technical certificate issued by the State of the air operator, specifying the technical aspects of operating operation and specifications.

.....

~~‘Alternate Aerodrome’ means an aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or land at the aerodrome of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use. to be operational if required.~~ Alternate aerodromes include the following:

- a) **Take-off alternate.** An alternate aerodrome at which an aircraft would land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.
- b) **En-route alternate.** An alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en-route.
- c) **Destination alternate.** An alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing.

*Note: The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.*

**‘Alternate heliport’.** A heliport to which a helicopter may proceed when it becomes either impossible or inadvisable to proceed to or to land at the heliport of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use. Alternate heliports include the following:

- a) Take-off alternate. An alternate heliport at which a helicopter ~~can land~~ would be able to land should this become necessary shortly after take-off and it is not possible to use the heliport of departure.
- b) En-route alternate. An alternate heliport at which a helicopter would be able to land in the event that the diversion becomes necessary while en route. ~~after experiencing an abnormal or emergency condition while en route.~~
- c) Destination alternate. An alternate heliport to which a helicopter ~~may proceed~~ at which a helicopter would be able to land should it become either impossible or inadvisable to land at the heliport of intended landing.

*Note: The heliport from which a flight departs may be an en-route or a destination alternate heliport for that flight.*

.....

**‘Approach and Landing Phase Helicopters’** means that part of the flight from 300 m (1 000 ft) above the elevation of the FATO, if the flight is planned to exceed this height, or from the commencement of the descent in the other cases, to landing or to the balked landing point.

.....

**‘Area navigation (RNAV)’** means A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

*Note: Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.*

.....

**‘Contaminated runway’** †† A runway is contaminated when a significant portion of the runway surface area (whether in isolated areas or not) within the length and width being used is covered by one or more of the substances listed in the runway surface condition descriptors.

†† Applicable as of 5<sup>th</sup> November 2020

*Note.— Further information on runway surface condition descriptors can be found in the Annex 14, Volume I — Definitions.*

**‘Continuing airworthiness’** means the set of processes by which an aircraft, engine, rotor or part complies with ~~all aircraft comply with~~ the applicable airworthiness requirements and remain in a condition for safe operation throughout ~~their~~ its operating life.

**“Continuing airworthiness records”** means Records which are related to the continuing airworthiness status of an aircraft, engine, rotor or associated part.

.....

**‘Decision Altitude (DA) or Decision Height (DH)’** means a specified altitude or height in a three-dimensional (3D) instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

.....

**‘Defined Point after Take-off’ (DPATO)** means the point, within the take-off and initial climb phase, before which the helicopter’s ability to continue the flight safely, with one engine inoperative, is not assured and forced landing may be required.

*Note: Defined points apply to helicopters operating in performance Class 2 only.*

.....

**‘Dry runway’ ††** A runway is considered dry if its surface is free of visible moisture and not contaminated within the area intended to be used.

†† Applicable as of 5<sup>th</sup> November 2020

.....

**‘En-route Phase’** means that part of the flight from the end of the take-off and initial climb phase to the commencement of the approach and landing phase.

*Note: Where adequate obstacle clearance cannot be guaranteed visually, flights must be planned to ensure that obstacles can be cleared by an appropriate margin. In the event of failure of the critical ~~power-unit~~, engine, operators may need to adopt alternative procedures.*

.....

**“Fatigue risk management system” (FRMS)** means a data-driven means of continuously monitoring and managing fatigue-related safety risks, based upon scientific principles and knowledge as well as operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness.

.....

**‘Final Approach and Take-off Area (FATO)’** means a defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced. Where the FATO is to be used by helicopters operating in performance Class 1, the defined area includes the rejected take-off area available.

.....

**‘Flight Recorder’** means any type of recorder installed in the aircraft for the purpose of complimenting accident/incident investigation.

**“Automatic deployable flight recorder” (ADFR)** means a combination flight recorder installed on the aircraft which is capable of automatically deploying from the aircraft.

.....

**“Head-up display” (HUD)** means a display system that presents flight information into the pilot’s forward external field of view.

.....

**‘Helicopter operating minima’** means the limits of usability of a helicopter for:

- a) take-off, expressed in terms of runway visual range and/or visibility and, if necessary, cloud conditions;
- b) ~~landing in 2D instrument approach operations, precision approach and landing operations,~~ expressed in terms of visibility and/or runway visual range and descent decision altitude/height (MDA/H) and if necessary, cloud conditions; ~~and as appropriate to the category of the operation;~~
- c) landing in 3D instrument approach operations, ~~approach and landing operations with vertical guidance,~~ expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H); ~~and~~ as appropriate to the type and / or category of operation.
- d) ~~landing in 3D instrument approach operations, non-precision approach and landing operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions.~~

.....

**‘Human Factors Principles’** means principles which apply to aeronautical design, certification, training operations and maintenance ~~and~~ which seek safe interface between the human and other system components by proper consideration to human performance.

.....

**‘Instrument approach procedure’** means a series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply. Instrument approach procedures are classified as follows:

*Non-precision approach (NPA) procedure.* An instrument approach procedure designed for 2D instrument approach operations Type A.

*Note: Non-precision approach procedures may be flown using a continuous descent final approach technique (CDFA). CDFA with advisory VNAV guidance calculated by on-board equipment [see PANS-OPS (Doc 8168), Volume I, Part I, Section 4, Chapter 1, paragraph 1.8.1] are considered 3D instrument approach operations. CDFA with manual calculation of the required rate of descent are*

considered 2D instrument approach operations. For more information on CDFA refer to PANS-OPS (Doc 8168), Volume I, Section 1.7 and 1.8.

*Approach procedure with vertical guidance (APV).* A performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A.

*Precision approach (PA) procedure.* An instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS Cat I) designed for 3D instrument approach operations Type A or B.

*Note: Refer to Annex 6 Part I for instrument approach operation types. Refer to Section II, Chapter 2, 2.2.8.3 of ICAO Annex 6, Part III for instrument approach operation types*

.....

**‘Landing Decision Point (LDP)’** means the point used in determining landing performance from which, ~~a power unit~~ an engine failure occurring at this point, the landing may be safely continued or balked landing initiated.

*Note: ~~LDP applies to performance Class 1 helicopters.~~ LDP applies only to helicopters operating in performance Class 1.*

.....

**‘Large aircraft’** means ~~an aircraft, classified as an aeroplane with a take-off mass of more than 5700 kg (12,500 pounds), or a multi-engine helicopter.~~

**‘Large aeroplane’** means an aeroplane of a maximum certificated take-off mass of over 5 700 kg.

.....

**‘Maintenance†’** means the performance of tasks required to ensure the continued airworthiness of an aircraft including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or repair. (effective until 4<sup>th</sup> November 2020)

**“Maintenance”††** means the performance of tasks on an aircraft, engine, propeller or associated part required to ensure the continuing airworthiness of an aircraft, engine, propeller or associated part including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or repair. (effective as of 5<sup>th</sup> November 2020)

.....

**‘Maintenance Release’ †** means a document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organisation’s procedures manual or under an equivalent system. (effective until 4<sup>th</sup> November 2020)

**‘Maintenance Release’ ††** means a document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner in accordance with appropriate airworthiness requirement. (effective as of 5<sup>th</sup> November 2020)

.....

**‘Modification’** means a change to the type design of an aircraft, engine or propeller.

*Note.— A modification may also include the embodiment of the modification which is a maintenance task subject to a maintenance release. Further guidance on aircraft maintenance — modification and repair is contained in the Airworthiness Manual (Doc 9760).*

.....

**‘Navigation specification’** means a set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

*Required navigation performance (RNP) specification.* A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.

*Area navigation (RNAV) specification.* A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.

*Note 1.— The Performance-based Navigation (PBN) Manual (Doc 9613), Volume II, contains detailed guidance on navigation specifications.*

*Note 2.— The term RNP, previously defined as “a statement of the navigation performance necessary for operation within a defined airspace”, has been removed from this Annex as the concept of RNP has been overtaken by the concept of PBN. The term RNP in this Annex is now solely used in the context of navigation specifications that require performance monitoring and alerting, e.g. RNP 4 refers to the aircraft and operating requirements, including a 4 NM lateral performance with on-board performance monitoring and alerting that are detailed in Doc 9613.*

**‘Night’** means the hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise, as may be prescribed by the appropriate authority.

*Note: Civil twilight ends in the evening when the centre of the sun’s disc is 6 degrees below the horizon and begins in the morning when the centre of the sun’s disc is 6 degrees below the horizon.*

.....

**‘Operations in performance Class 1’** means operations with performance such that, in the event of a ~~critical power unit~~ **an engine** failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, unless the failure occurs prior to reaching the take-off decision point (TDP) or after passing the landing decision point (LDP), in which cases the helicopter must be able to land within the rejected take-off or landing area.

**‘Operations in performance Class 2’** means operations with performance such that, in the event of ~~critical power unit~~ **an engine** failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, except when the failure occurs early during the take-off manoeuvre or late in the landing manoeuvre, in which cases a forced landing may be required.

**‘Operations in performance Class 3’** means operations with performance such that, in the event of ~~critical power unit~~ **an engine** failure at any time during the flight, a forced landing will be required.

**‘Operations manual’** means ~~the~~ **a** manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.

.....

**‘Repair’** † means the restoration of an aeronautical product to an airworthy condition to ensure that the aircraft continues to comply with the design aspects of the appropriate airworthiness requirements used for the issuance of the type certificate for the respective aircraft type, after it has been damaged or subjected to wear. (effective until 4<sup>th</sup> November 2020)

**‘Repair’** †† The restoration of an aircraft, engine or associated part to an airworthy condition in accordance with the appropriate airworthiness requirements after it has been damaged or subjected to wear. (effective as of 5<sup>th</sup> November 2020)

.....

**‘State of the Aerodrome’** means the State in whose territory the aerodrome is located.

*Note.*— *State of the Aerodrome includes heliports and landing locations.*

**‘State Of The Operator’** means the State in which the operator’s principal place of business is located ~~has his principal place of business~~ or if he has no such place of business, ~~his~~ **the** operator’s permanent residence.

**‘State Of Registry’** means the State on whose register the aircraft is entered.

*Note.*— *In the case of the registration of aircraft of an international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations which, under the Chicago Convention, attach to a State of Registry. See, in this regard, the Council Resolution of 14 December 1967 on Nationality and Registration of Aircraft Operated by International Operating Agencies which can be found in Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587).*

.....

**Take-off and Initial Climb Phase —Helicopter<sup>2</sup>** means that part of flight from the start of take-off to 300 m (1000 ft) above the elevation of the FATO, if the flight is planned to exceed this height, or to the end of the climb in the other cases.

**‘Take-off Decision Point (TDP)’** means the point used in determining take-off performance from which, ~~a power-unit~~ an engine failure occurring at this point, either a rejected take-off may be made or take-off safely continued.

*Note: TDP applies only to helicopters operating in performance Class 1.*

.....

**‘Visual Meteorological Conditions (VMC)’** means meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.

*Note.— The specified minima are contained in Chapter 4 of Annex 2.*

.....

**‘V<sub>Toss</sub>’** (helicopter) means the minimum speed at which climb shall be achieved with the critical ~~power-unit~~ engines inoperative, the remaining ~~power-units~~ engines operating within approved operating limits.

*Note: The speed referred to above may be measured by instrument indications or achieved by a procedure specified in the flight manual.*

.....

**Wet runway.**<sup>††</sup> The runway surface is covered by any visible dampness or water up to and including 3 mm deep within the intended area of use.

## 1.2 Abbreviations and symbols

### 1.2.1 Abbreviations..... 1-49

.....

**‘AIRS’** - Airborne Image Recording System

.....

**‘APCH’** - Approach

**‘AR’** - Authorisation Required

.....

**‘ATN’** - Aeronautical Telecommunication Network

.....



**'DLR'** - Data Link Recorder

**'DLRS'** - Data Link Recording System

.....

**'FANS'** - Future Air Navigation System

**'FATO'** - Final Approach and Take-Off Area

.....

**'HUD'** - Head-Up Display

.....

**'inHg'** - Inch of Mercury

.....

**'LDAH'** - Landing Distance Available

.....

**'LDRH'** - Landing Distance Required

.....

**'mb'** - Millibar

**'MDA'** - Minimum Descent Altitude

**'MDA/H'** - Minimum Descent Altitude / Height

**'MDH'** - Minimum Descent Height

**'MEL'** - Minimum Equipment List

**'MHz'** - Megahertz

.....

**'MLS'** - Microwave Landing System

.....

**'PNR'** - Point of No Return

**'psi'** - Pound per Square Inch

**'R'** - Rotor Radius

.....

**'RVR'** - Runway Visual Range

.....

**'T4'** - Engine Exhaust Gas Temperature

.....

**'TLOF'** - Touchdown and Lift-Off Area

**'TODAH'** - Take-Off Distance Available

**'TODRH'** - Take-Off Distance Required

.....

**'VFR'** - Visual Flight Rules

**'VMC'** - Visual Meteorological Conditions

**VNAV'** - Vertical Navigation

.....