**United Kingdom**

# Civil Aviation Authority

# Official Record Series 9

## CAA Decision to amend AMC and GM for UK Reg (EU) 2017/373 pursuant to Article 76(3) UK Reg (EU) 2018/1139

## DECISION No. 6

**Publication date: 2 September 2021**

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**Decision amending Acceptable Means of Compliance (AMC) and Guidance Material (GM) for UK Reg (EU) 2017/373 Annex I Part-Definitions and Annex IV Part-ATS regarding air traffic controllers' rostering system(s)**

### Background

1. CAA UK-EU Transition Decision No. 1 adopted a form of acceptable means of compliance ("**AMC**") as the means by which the requirements in Regulation (EU) 2017/373 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018 ("**UK Reg (EU) 2017/373**") could be met. That decision also adopted guidance material ("**GM**") as non-binding explanatory and interpretation material on how to achieve the requirements in UK Reg (EU) 2017/373. The CAA has decided to adopt revised AMC and GM in respect of UK Reg (EU) 2017/373.

2. With one exception, these AMC and GM do not amend the AMC or GM already adopted; they expand upon those already adopted to provide industry with additional detailed AMC and GM to assist their implementation of the Regulation.

3. The exception relates to AMC1 ATS.OR.320(a)(6);(7) published by EASA and adopted by CAA Decision 1 on 1 January 2021 which defines 'night time'. This definition of 'night time' differs from that historically in use in the UK and its application would have significant deleterious effects to the operations of UK ATC service providers with no conceivable benefit. These AMC re-instate the definition of 'night time' that has been in used in the UK since 1992 as defined and published by the CAA within CAP 670 'ATS Safety Requirements.

### Decision

1. The CAA, under Article 76(3) of Regulation (EU) No 2018/1139 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018, has decided to adopt the AMC and GM attached at Schedule 1.

2. This AMC and GM supplements and/or replaces that which was adopted for UK Reg (EU) 2017/373 Annex I 'Part-Definitions' and Annex IV 'Part-ATS' ATS.OR.320 by CAA UK-EU Transition Decision No. 1 dated 22 December 2020.

This Decision will remain in force unless revoked or amended by the CAA.

The AMC and GM attached at Schedule 1 to this Decision come into force on 7 March 2022.

**Definitions**
All references to UK Reg (EU) 2017/373 are to the UK law bearing that title or number, being EU retained law as retained (and amended in UK domestic law) pursuant to the European Union (Withdrawal) Act 2018.

Rob Bishton
For the Civil Aviation Authority and the United Kingdom

Date of Decision: 2 September 2021

Date of Decision Coming into force: 7 March 2022

**Schedule 1**

**Includes the Acceptable Means of Compliance (AMC) and Guidance Material (GM) documents referenced below.**

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

(a) ~~Text to be deleted is shown struck through~~;

(b) New text is highlighted in grey;

(c) ~~Text to be deleted is shown struck through~~ followed by the replacement text which is highlighted in grey.

## AMC and GM to ATM/ANS IR Annex I Part-Definitions

### AMC1 44. Duty

**SYNTHETIC TRAINING DEVICE ACTIVITY**

(a) Operational and emergency continuation training on synthetic training devices (STD), and other STD activity required to evidence competence of an individual controller, should be counted as operational duty.

(b) Simulations which are part of air traffic controller training at ATC training colleges are not considered to be duty.

### GM1 44. Duty

**GENERAL**

(a) Task that constitute duty are those which can only be performed by an air traffic controller whose licence contains a rating valid at the unit and who exercises, or could be called upon to exercise, the privileges of the licence at that unit, and includes prescribed breaks.

(b) Duty includes ancillary tasks. An ancillary task is any task in an operational control room which is not directly associated with the provision of an ATC service. Air traffic controllers should not normally be required to carry out ancillary tasks while they are providing air traffic services (ATS).

(c) It may be necessary, by mutual consent, for an air traffic controller to attend their place of work without being called upon to exercise the privileges of their licence. Although these situations in and of themselves need not be considered as duty for the purposes of calculation of a duty period, the cumulative effects should be considered and where possible the duty hours adjusted to compensate. For example, should an individual, holding a valid unit endorsement, attend a meeting prior to the start of their rostered shift or on a rostered day off, the meeting does not form part of the “operational duty” but the rostering system should be sympathetic to the effects of that additional attendance.

## GM2 44. Duty

**OPERATIONAL DUTY**

In developing an air traffic controller rostering system, ATC service providers may find it useful to define the term ‘operational duty’ as being “the period during which an air traffic controller is actually exercising the privileges of their licence at an operational position”.

## AMC1 45. Duty period

**DEFINITION OF DUTY PERIODS**

A rostering system should give consideration to the impacts, sequencing and frequency of ‘early start’, ‘morning’ and ‘night duty periods’.

(a) An ‘early start duty’ is considered to be a duty period that commences between 0530 and 0629.

(b) A ‘morning duty’ is considered to be a duty period that commences between 0630 and 0759.

(c) A duty period encroaching the night time (i.e. ‘night duty’) is considered to be a duty period wholly or partly within the period of 0130 and 0529 hours.

## AMC2 45. Duty period

**SHIFT HANDOVER**

The time taken for orderly handover/takeover before a shift start, or to enable opening/closing checks to be completed, up to a maximum of 15 minutes, should not be considered to form part of the oncoming air traffic controller’s duty period.

## GM1 45. Duty period

**‘ON CALL’ DUTIES**

The definition of duty period includes those periods when an air traffic controller is ‘on call’; i.e. they are required to be available for duty. Where necessary, in defining duty periods within the rostering system, ATC service providers should make clear the distinction between air traffic controllers being ‘on duty’ (described in GM1 44. Duty) and being ‘available for duty’; i.e. being ‘on call’.

ATC service providers may find it useful to define the term ‘on call duty’ as being “a period during which, by prior arrangement, an air traffic controller is required to be available to report at their place of work with the intention of providing an air traffic control service”.

**AMC and GM to ATM/ANS IR Annex IV Part-ATS ATS.OR.320**

## AMC1 ATS.OR.320(a) Air traffic controllers' rostering system(s)

**STUDENT AND TRAINEE AIR TRAFFIC CONTROLLERS**

The rostering principle below is a means by which an air traffic control service provider can design a rostering system(s) which manages the risks of occupational fatigue of air traffic controllers:

The rostering system should apply equally to student and trainee air traffic controllers undertaking live traffic on-the-job training.

## AMC2 ATS.OR.320(a) Air traffic controllers' rostering system(s)

**ANCILLARY TASKS**

An ancillary task is any task in an operational control room which is not directly associated with the provision of an ATC service and is considered to be duty. Where the conduct of such ancillary tasks during a duty period is unavoidable, the ATC service provider should be able to demonstrate that the air traffic controller will not be distracted from their primary function or placed under undue pressure. These ancillary tasks and the person/role responsible for discharging them should be clearly identified in the unit's MATS Part 2.

## GM1 ATS.OR.320(a) Air traffic controllers' rostering system(s)

**STRUCTURE AND VALUES OF THE ROSTERING SYSTEM**

(a) The selection and the regular revision of an appropriate structure and of appropriate values of the rostering system, in accordance with ATS.OR.320(a) and which fit the intended operations, should be based upon:

(1) scientific principles;

(2) data gathered by the air traffic control service provider (for example, aerodrome opening hours, aircraft movement data and workload assessments for the affected controller working positions); and

(3) best practices.

(b) Guidance material on fatigue and its effects on safety-relevant aviation professionals may be found in Chapter 2 'Scientific Principles for Fatigue Management' of ICAO Doc 9966 'Manual for the Oversight of Fatigue Management Approaches'.

## GM2 ATS.OR.320(a) Air traffic controllers' rostering system(s)

**STAFFING REQUIREMENTS**

(a) The number of operational positions, period of operation and limitation of duty hours indicate the minimum number of validated air traffic controllers required at a unit.

(b) It is the responsibility of the ATC service provider to demonstrate that a unit maintains sufficient qualified air traffic controllers to provide safe ATS.

(c) Although conditions at different units may vary, an approximation for the calculation of the minimum number of air traffic controllers required is given using the following formula:

Total number of valid air traffic controllers, $C = \frac{ND}{365-R}$ rounded up to whole number.

Where:

- 'N' equals the number of air traffic controllers required to attend for duties, including a relief to give breaks, each day. This will depend on the number of operational positions and the period for which they are scheduled to open.
- 'D' equals the number of days the unit provides ATS in a year.
- 'R' equals the number of days an air traffic controller is not available for duty, i.e. rest days, annual leave, public holidays in lieu, allowance for sickness and training etc.

(d) **Example 1.** A unit comprising Aerodrome Control and a combined Approach and Approach Radar Control open seven days a week between 0600 hrs and 2200 hrs. Both positions operating at all times.

N = 6 (i.e. 2 'early duties', 2 'late duties' and 2 'relief duties')

D = 365

R = 120 (i.e. rest days (3 x 2½ x 12 = 90 days ) + leave (21 days) + public holidays (9 days)

Therefore $C = \frac{6*365}{365-120} =$ (8.9) 9 air traffic controllers.

(e) **Example 2.** A small unit without radar able to provide a combined Aerodrome and Approach Control service at certain times of the day. Open 6½ days a week between 0600 hrs and 2200 hrs for 6 days and 0800 hrs to 1600 hrs on the half-day.

N = 4 (i.e. 1 'early duty', 1 'late duty', 1 duty to split positions (max 10-hours) and 1 'relief duty')

D = 338

R = 120 (i.e. rest days (3 x 2½ x 12 = 90 days ) + leave (21 days) + public holidays (9 days)

Therefore $C = \frac{4*338}{365-120} =$ (5.5) 6 air traffic controllers.

(f) Certain assumptions have been made in the calculation of 'N' in the examples above. There are many ways of deploying staff, and managers may use other criteria in arriving at 'N'. Whatever method is used, the critical factor will be the values specified by the ATC service provider within the rostering system in fulfilment of ATS.OR.320(a).

(g) The examples above make no allowance for sickness or other duties, and ATC service providers should consider making such allowances within their rostering systems.

## GM3 ATS.OR.320(a) Air traffic controllers' rostering system(s)

**OPERATIONAL SUPPORT STAFF**

(a) Air traffic controllers may delegate some of their responsibilities to adequately trained support staff (i.e. air traffic service assistants) provided they do not include duties for which an air traffic control licence is required. These responsibilities which can be delegated fall into two categories:

(1) Air traffic control related duties are those closely associated with the safety of aircraft (e.g. telephone messages concerning flight data and clearances). These duties and the person responsible for discharging them should be clearly identified in the unit's MATS Part 2.

(2) Other duties of an administrative nature.

(b) Adequate support staff should be rostered. The number and disposition of support staff will depend on the complexity of the unit. The ATC service provider should arrange appropriate training and should be responsible for the continued competence of such staff. The CAA may require to be given details of the training that support staff have received.

## AMC1 ATS.OR.320(a)(1) Air traffic controllers' rostering system(s)

**MAXIMUM CONSECUTIVE WORKING DAYS WITH DUTY**

Together, the following rostering principles are means by which an air traffic control service provider can design a rostering system(s) which manages the risks of occupational fatigue of air traffic controllers:

(a) The maximum number of consecutive working days with duty should not exceed either 6 days or consecutive periods of duty totalling 50 hours within 6 days, whichever is achieved earlier.

(b) The maximum number of consecutive 'morning' duty periods should not exceed 5 days.

(c) Not more than 2 'early starts' should be worked in a period of 144 hours (6 days).

(d) Consecutive 'early start' duties should not be permitted where both duties commence before 0600.

(e) In determining the maximum number of consecutive 'morning' duty periods, 'early start' duty periods should be counted, and those commencing before 0600 should count double.

## AMC1 ATS.OR.320(a)(2) Air traffic controllers' rostering system(s)

**MAXIMUM HOURS PER DUTY PERIOD**

Together, the following rostering principles are means by which an air traffic control service provider can design a rostering system(s) which manages the risks of occupational fatigue of air traffic controllers:

(a) Except as indicated in b) and (c) below the maximum hours per duty period should not exceed 10 hours.

(b) The maximum hours for an ‘early start’ duty period should not exceed 8 hours.

(c) The maximum hours for a ‘morning’ duty period should not exceed 8 ½ hours.

(d) Within 720 consecutive hours (30 days) the aggregate of periods of duty should not exceed 300 hours, provided that periods of duty (excluding on call duty) do not exceed 200 hours.

## AMC2 ATS.OR.320(a)(2) Air traffic controllers’ rostering system(s)

**LIMITS FOR ‘ON CALL’ DUTIES**

Together, the following rostering principles are means by which an air traffic control service provider can design a rostering system(s) which manages the risks of occupational fatigue of air traffic controllers:

(a) The maximum ‘on call’ duty period, where the controller does not attend the place of work, should be 20 hours and all ‘on call’ duty time spent in attendance at the place of work should count double.

For example, if an air traffic controller attends the place of work ten hours after commencing an ‘on call’ duty, the 20-hour maximum ‘on call’ period of duty will be reached when the air traffic controller completes five hours at the place of work [10 hours + (5 hours x 2 = 10 hours) = 20 hours].

(b) Not more than two ‘on call’ duty periods should be worked in a period of 144 hours (6 days).

(c) Prior to commencing an ‘on call’ duty period, air traffic controllers should be rested in accordance with the limitations defined by the ATC service provider and, if called in, should then be subject to the minimum interval between duty periods as specified by the service provider. An ‘on call’ air traffic controller who is not called in during an overnight ‘on call’ duty should not be utilised before midday on the day the overnight ‘on call’ duty finished.

(d) Normally only one attendance at the place of work per ‘on call’ duty period should be permitted.

(e) ATC service providers should ensure that their rostering system addresses how they intend to operate in exceptional circumstances outside the normal operating limitations.

(f) Where an air traffic controller is rostered for a shift of duty as part of the operational shift pattern but is instructed to remain “on call” rather than “on site”, the limitations for their originally rostered standard duty period should apply.

## AMC1 ATS.OR.320(a)(3) Air traffic controllers’ rostering system(s)

**MAXIMUM TIME PROVIDING AIR TRAFFIC CONTROL SERVICE WITHOUT BREAKS**

Together, the following rostering principles are means by which an air traffic control service provider can design a rostering system(s) which manages the risks of occupational fatigue of air traffic controllers:

(a) The maximum time providing ATC service without a break should not exceed 2 hours.

(b) Notwithstanding point (a), at units where workload for any part of the day is judged to be low and the activity is spasmodic rather than continuous, the maximum time providing ATC service without a break, at these times, should not exceed 4 hours.

(c) Notwithstanding points (a) and (b), for a controller on an ‘early start duty’ (see AMC1 .45 Duty period) commencing **before** 0600, **all** operational duty periods shall be limited

to 1.5 hours. For a controller on an 'early start duty' commencing **at or after 0600**, the **first** operational duty period shall be limited to 1.5 hours.

## GM1 to AMC1 ATS.OR.320(a)(3) Air traffic controllers' rostering system(s)

**MAXIMUM TIME PROVIDING AIR TRAFFIC CONTROL SERVICE WITHOUT BREAKS**

With reference to point (b) of AMC1 ATS.OR.320(a)(3), judgements on unit workload should be made by unit managers in consultation with, and the approval of the appropriate Principal Inspector (ATM).

## AMC1 ATS.OR.320(a)(4) Air traffic controllers' rostering system(s)

**RATIO OF DUTY PERIODS TO BREAKS WHEN PROVIDING ATC SERVICE**

The rostering principle below is a means by which an air traffic control service provider can design a rostering system(s) which manages the risks of occupational fatigue of air traffic controllers:

The ratio of operational duty periods to breaks should be 1:4; for example, 15 minutes break for 1 hour operational duty period.

## AMC1 ATS.OR.320(a)(5) and ATS.OR.320(a)(8) Air traffic controllers' rostering system(s)

**MINIMUM REST PERIODS**

Together, the following rostering principles are means by which an air traffic control service provider can design a rostering system(s) which manages the risks of occupational fatigue of air traffic controllers:

(a) Notwithstanding AMC1.ATS.OR.320(a)(4), where the maximum time providing ATC service without a break is 2 hours in accordance with point (a) of AMC1 ATS.OR.320(a)(3), such periods should not exceed a period of 2 hours without there being taken during, or at the end of, that period a break or breaks totalling not less than 30 minutes during which period a controller does not exercise the privileges of their licence.

(b) Notwithstanding AMC1.ATS.OR.320(a)(4), where the maximum time providing ATC service without a break is greater than 2 hours in accordance with point (b) of AMC1 ATS.OR.320(a)(3), a break, or breaks should be taken pro-rata, during, or at the end of, that period of operational duty (for example, 45 minutes after 3 hours or 60 minutes after 4 hours) during which period a controller does not exercise the privileges of their licence.

(c) There should be an interval of not less than 12 hours between the conclusion of one duty period and the commencement of the next period of duty. This interval should only be reduced (and only by a maximum of 1 hour) with the approval of the controller concerned and in any individual case such a reduction should be permitted no more than once in a period of 720 consecutive hours (30 days).

(d) Upon the conclusion of six consecutive duty periods within 144 consecutive hours (6 days), or upon consecutive duty periods within 144 consecutive hours (6 days) reaching a total of 50 hours, whichever is the earlier, there should be an interval of a minimum of 60 hours before the commencement of the next duty period. This interval may be reduced in accordance with paragraph (e).

(e) Within 720 consecutive hours (30 days) there should be not fewer than three intervals between the conclusion of one duty period and the commencement of the next period of duty. These intervals should total not less than 180 hours with the minimum interval being not less than 54 hours.

## GM1 AMC1 ATS.OR.320(a)(5) and ATS.OR.320(a)(8) Air traffic controllers' rostering system(s)

**MINIMUM REST PERIODS**

With reference to point (d) of AMC1 ATS.OR.320(a)(5) and ATS.OR.320(a)(8), this rostering principle presumes full attendance with no absences due to annual leave etc.

## AMC2 ATS.OR.320(a)(5) Air traffic controllers' rostering system(s)

**SHIFT HANDOVER**

The rostering principle below is a means by which an air traffic control service provider can design a rostering system(s) which manages the risks of occupational fatigue of air traffic controllers:

Where an interval of a minimum of 60 hours or 54 hours between duty period has been stipulated, that interval may be reduced by up to 30 minutes solely for the purpose of orderly shift handover.

## AMC3 ATS.OR.320(a)(5) Air traffic controllers' rostering system(s)

**TRIAL AND EVALUATION SIMULATIONS**

(a) Trial and evaluation simulations which take place within duty periods, or in place of operational duties, should be conducted within the overall limitations of duty periods.

(b) Where trial and evaluation simulations take place within a stipulated rest period, then an interval of 48 hours should exist between the end of the simulation and the commencement of the next duty period. Alternatively, an interval of 24 hours should immediately precede and immediately follow such periods of simulator duty.

## AMC4 ATS.OR.320(a)(5) Air traffic controllers' rostering system(s)

**SECONDARY EMPLOYMENT**

(a) Any secondary employment that involves exercising the privileges of an ATCO licence is subject to the rest period limitations prescribed by the most restrictive ATC service provider.

(b) ATCO.A.015(b) (Reg UK (EU) No 2015/340 Annex I Sub-Part A) states that "licence holders shall not exercise the privileges of their licence when having doubts of being able to safely exercise the privileges of the licence" and cites fatigue (GM1 ATCO.A.015(b)) as grounds for that doubt.

(c) It is the CAA's view that air traffic controllers who engage in secondary employment within stipulated rest periods are at risk of failing to meet their responsibilities under ATCO.A.015(b) and should be required by their contract of employment to declare this to their employer.

## GM2 ATS.OR.320(a)(5) Air traffic controllers' rostering system(s)

**REST**

Rest between periods of operational duty should include all measures necessary to ensure that air traffic controllers will not be suffering, to any extent as a consequence of their duties, mental or physical fatigue whilst exercising the privileges of their licence. Such measures are expected to include a certain detachment from the operation, e.g. rest areas, some of which should afford the individual 'quiet space' and facilities for adequate refreshment.

## GM3 ATS.OR.320(a)(5) Air traffic controllers' rostering system(s)

**REST FACILITIES**

(a) At all units the minimum rest facilities should consist of a separate room, which is remote from the operations room and reasonably quiet. There should be sufficient and adequate furniture for the number of staff likely to be on a fatigue break at one time.

(b) Facilities for obtaining refreshments should be available within a reasonable distance of the unit or appropriate facilities should be provided for the storage and preparation of food and drinks.

## ~~AMC1 ATS.OR.320(a)(6);(7) Air traffic controllers' rostering system(s)~~

~~**NIGHT TIME**~~

~~Night time should be considered as the time between midnight and 05.59.~~

## AMC1 ATS.OR.320(a)(6) Air traffic controllers' rostering system(s)

**MAXIMUM CONSECUTIVE DUTY PERIODS ENCROACHING THE NIGHT TIME**

Not more than two night duties should be worked in immediate succession. In all cases the maximum night duty period should not exceed 9.5 hours and the night duty should conclude no later than 0730 hours.

## AMC1 ATS.OR.320(a)(7) Air traffic controllers' rostering system(s)

**MINIMUM REST PERIOD AFTER A DUTY PERIOD ENCROACHING THE NIGHT TIME**

(a) Upon the conclusion of a single night duty, or two consecutive night duties, there should be an interval of a minimum of 54 hours before the commencement of the next period of duty.

(b) ATC service providers may, in exceptional circumstances and with the approval of the air traffic controller concerned, offer a 48-hour minimum interval between the end of a single night duty and the commencement of the next period of daytime duty. This allowance should only be utilised to cover short notice staffing difficulties and not when planning for, or as part of, the published unit roster.

## AMC1 ATS.OR.320(a)(8) Air traffic controllers' rostering system(s)

### MINIMUM NUMBER OF REST PERIODS WITHIN A ROSTER CYCLE

During any calendar or leave year a minimum of 10 days of total holiday entitlement should be taken in whole periods of not less than five consecutive days of booked leave (excluding rostered days off).

## GM1 ATS.OR.320(a)(1);(2);(3);(4);(5);(6);(7);(8) Air traffic controllers' rostering system(s)

### EXCHANGE OF SHIFTS

ATC Service providers should consider including within the rostering system a mechanism to approve an exchange of shifts between air traffic controllers. In approving such exchanges, the ATC service provider should ensure that the controllers involved work in accordance with this guidance and will be rested in accordance with the specified requirements of the rostering system.

## GM1 ATS.OR.320(b) Air traffic controllers' rostering system(s)

### AIR TRAFFIC CONTROLLERS' INVOLVEMENT

Additional guidance concerning the involvement of air traffic controllers in the definition of rostering systems is available in EUROCONTROL Study on Shiftwork practices — ATM and related Industries, edition 1.0 of 14 April 2006.