Comment-Response Document 2012-18 (B.VI(a))

Licensing and medical certification of air traffic controllers

(AMC/GM to Part-ATCO.MED)

CRD to NPA 2012-18 (B.VI(a)) — RMT.0153 (ATM.003(a)) & RMT.0154 (ATM.003(b)) — 02/10/2013

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1. Individual comments and responses

In responding to comments, a standard terminology has been applied to attest the Agency's position. This terminology is as follows:

(a) **Accepted** — The Agency agrees with the comment and any proposed amendment is wholly transferred to the revised text.

(b) **Partially accepted** — The Agency either agrees partially with the comment, or agrees with it but the proposed amendment is only partially transferred to the revised text.

(c) **Noted** — The Agency acknowledges the comment but no change to the existing text is considered necessary.

(d) **Not accepted** — The comment or proposed amendment is not shared by the Agency.

NPA 2012-18 (B.VI) 'Acceptable Means of Compliance and Guidance Material to Part-ATCO.MED' — General comments p. 1-2

comment	*28* comment by: *CAA-NL* This is to notify that the comments on NPA 2012-18 (B.I) under the header 'CAA-NL' are issued by CAA-NL and Air Traffic Control The Netherlands/Luchtverkeersleiding Nederland (LVNL) together.
response	*Noted*

AMC/GM TO PART-ATCO.MED — SUBPART A — GENERAL REQUIREMENTS — SECTION 1 GENERAL — AMC1 ATCO.MED.A.015 Medical confidentiality p. 3

comment *58* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.A.015

Comment:
The text refers to the medical assessor, which implies that this AMC relates to the licensing or competent authority and not to an AeMC or AME. This should be covered in an AMC to ATCO.AR.F and should be deleted here.

Proposal:
Delete AMC1 ATCO.MED.A.015.

response	*Accepted*

comment	*104* comment by: *USAC-CGT* Why using medical assessor rather than AME ?
response	*Noted* Paragraph deleted.

AMC/GM TO PART-ATCO.MED — SUBPART A — GENERAL REQUIREMENTS — SECTION 1 GENERAL — AMC1 ATCO.MED.A.020 Decrease in medical fitness p. 3

comment	*20* comment by: *skyguide Corporate Regulation Management* **ATCO.MED.A.020(a)** 1) from any illness involving incapacity to function as ATCO or any illness for a period of more than 20 days; Why 20 days? What added value does this bring? How are the days defined (rostered versus calendar days)? **ATCO.MED.A.020(b)** (b) Any advice provided should be recorded in the medical certificate holder's ~~applicant's~~ file. It is not an applicant who seeks advice, but, as stated in the paragraph (a), a holder of a medical certificate.
response	*Noted* Comment 1 in this field: paragraph deleted. Comment 2 in this field: paragraph deleted.

comment	*29* comment by: *CAA-NL* The wording diverse from the same AMC in Part MED, where the intention is the same, please use the same wording.
response	*Noted* Paragraph deleted as in Part-MED.

comment *42* comment by: *UK CAA*

Page No: 3
Paragraph No: AMC1 ATCO.MED.A.020
Comment: AMC material will be needed for compliance with MED.A.020 if the IR is established to deal with a requirement to notify the ANSP of a decrease in medical fitness, as in Article 17 of Regulation 805/2011.

response *Noted*

ATCO.MED.020 deals exclusively with medical fitness and the corresponding medical advice by the AME. The ASNP is not involved. The AMC to this paragraph has been deleted because all necessary information is in the rule.

comment *43* comment by: *UK CAA*

Page No: 3
Paragraph No: AMC1 ATCO.MED.A.020 (b)
Comment: Paragraph (b) states "Any advice provided should be recorded in the applicant's file."
The term 'file' has not been previously used.
Justification: For clarity use 'medical record'.
Proposed Text: "b) Any advice provided should be recorded in the applicant's **medical record**."

response *Noted*

The paragraph has been deleted.

comment *59* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.A.020

Comment:
AMCs to Part-MED have been amended to give more clarity to the requirements.
The time limit of 20 days has been deleted both from ICAO Annex 1 and from Part-MED for aircrew.
AMC1 ATCO.MED.A.025 should be amended to be consistent with corresponding AMC to Part-MED.

Proposal:
Amend AMC to MED.A.025:
(a) 'Holders of class 3 medical certificates should seek the advice of an AeMC or AME if in any doubt about their medical fitness to exercise the privileges of their licence, or the use of medication or treatment.'
(b) 'Any advice provided by an AeMC or AME should be recorded in the applicant's file.'

response *Noted*

The paragraph AMC1 ATCO.MED.A.020 has been deleted.

comment *60* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.A.020

Comment:
The corresponding paragraph in Part-MED has been amended with an addition of GM to describe how the effects of medication should be considered.
The same text should be entered as a GM1 ATCO.MED.A.025.

Proposal:
Add a GM1 MED.A.020, using the same text as in GM1 MED.A.020.

response *Accepted*

comment *103* comment by: *USAC-CGT*

This AMC has to be reviewed at least (if not deleted) depending on what will be done on provisional inability.

response *Noted*

The paragraph has been deleted because all relevant information has been covered in the rule. Part-ATCO.MED is on medical fitness and is in no way connected to provisional inability.

comment *120* comment by: *Federal Office of Civil Aviation FOCA*

Article:
AMC ATCO.MED.A.020
Comment / Issue / Suggestion:
20 days
Justification:
where do this 20 days come from. Provide explanation

response	*Noted* The paragraph has been deleted.

comment	*121* comment by: *Federal Office of Civil Aviation FOCA* Article: AMC ATCO.MED.A.020 Comment / Issue / Suggestion: applicants file Justification: we are talking about medical certifcate holders here, not applicants. Suggest reword accordingly
response	*Noted* The paragraph has been deleted.

AMC/GM TO PART-ATCO.MED — SUBPART A — GENERAL REQUIREMENTS — SECTION 1 GENERAL — AMC1 ATCO.MED.A.025 Obligations of AeMC and AME p. 3

comment	*21* comment by: *skyguide Corporate Regulation Management* **ATCO.MED.A.025(a)** (a) The report required in ATCO.MED.A.025(b)(4) should detail the assessment result ~~results of the examination~~ ~~and the~~ ~~evaluation of the findings~~ with regard to medical fitness. The vocabulary used is not coherent with the IR. Findings belong to oversight and not a medical investigation. It remains unclear what additional information this AMC is bringing to the implementation of the IR. **ATCO.MED.A.025(b)** (b) The report may be submitted in electronic format, but adequate identification of the AME should be ensured. As the IR states that the report should be electronically authenticated, it will, de facto, indicate the identification of the AME. This AMC therefore does not bring any added information to the IR. *"submit without delay a signed, or electronically authenticated, report to…"*
response	*Noted* Subparagraphs (a) and (b) have been deleted due to an amendment of the rule which covers now all necessary information. A medical finding is a pathologic result of a medical examination or test and has nothing to do with standardisation.

comment	*61* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*
	Section: AMC1 ATCO.MED.A.025
	Comment: The corresponding paragraph in Part-MED has been amended with additional obligations of an AeMC and AME, including actions in case of inaccurate information, and a requirement to give advice to the applicant. AMC1 ATCO.MED.A.025 should be amended to be consistent with corresponding AMC to Part-MED.
	Proposal: Amend AMC1 ATCO.MED.A.025: **(d) 'The applicant should be made aware that the associated medical certificate may be suspended or revoked if the applicant provides incomplete, inaccurate or false statements to the AeMC or AME on their medical history.'** **(e) 'The AeMC or AME should give advice to the applicant on treatment and preventive measures if, during the course of the examination, medical conditions are found which may endanger the medical fitness of the applicant in the future.'**
response	*Accepted* Paragraph aligned with Part-MED.

comment	*122* comment by: *Federal Office of Civil Aviation FOCA* Article: AMC ATCO.MED.A.025 Comment / Issue / Suggestion: examination vs. assessment vs. investigation Justification: use coherent terms according to the IR
response	*Noted* Please see definitions in ATCO.MED.A.010.

AMC/GM TO PART-ATCO.MED — SUBPART A — GENERAL REQUIREMENTS — SECTION 2 REQUIREMENTS FOR MEDICAL CERTIFICATES — AMC1 ATCO.MED.A.035 Application for a medical certificate p. 3

comment	*22* comment by: *skyguide Corporate Regulation Management* **AMC1 ATCO.MED.A.035** When applicants do not present a current or previous medical certificate to the AeMC or AME prior to the relevant examinations, the AeMC or AME should not issue the medical certificate unless relevant information is received from the licensing authority. This does not allow for the first application for a medical certificate. Any student ATCO applicant for a medical certificate for the first time will have neither a previous medical certificate, nor any information about them with a competent authority regarding their medical status.
response	*Noted*

comment	*62* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)* Section: AMC1 ATCO.MED.A.035 **Comment**: AMC1 to MED.A.035 has been amended (editorial) to give more clarity to the requirements. AMC1 ATCO.MED.A.035 should be amended to be consistent with corresponding AMC to Part-MED. **Proposal:** Amend AMC1 ATCO.MED.A.035: **'When applicants do not present the most recent medical certificate to the AeMC or AME prior to the relevant examinations, the AeMC or AME should not issue the medical certificate unless relevant information is received from the licensing authority.'**
response	*Accepted*

comment	*124* comment by: *Federal Office of Civil Aviation FOCA* Article: AMC ATCO.MED.A.035 Comment / Issue / Suggestion: Suggest delete Justification: First time applicants do not have this information available due to the fact that they do not hold a medical certificate, yet.

response *Noted*

AMC/GM TO PART-ATCO.MED — SUBPART A — GENERAL REQUIREMENTS — SECTION 2 REQUIREMENTS FOR MEDICAL CERTIFICATES — AMC1 ATCO.MED.A.045 Validity, revalidation and renewal of medical certificates p. 3

comment *63* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.A.045

Comment:
The subject is already covered by ATCO.MED.A.045 (a)(3). The AMC should be deleted.

Proposal:
Delete AMC1 ATCO.MED.A.045

response *Accepted*

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 1 GENERAL — AMC1 ATCO.MED.B.001 Limitations to Class 3 medical certificates p. 4

comment *23* comment by: *skyguide Corporate Regulation Management*

AMC1 ATCO.MED.B.001(b)
(a) (b) ~~In cases where a fit assessment can only be considered with a limitation, the AeMC, AME or the licensing authority should evaluate the medical condition of the applicant in consultation with control operations and other experts, if necessary~~.In cases where an assessment results in a limitation, the AeMC, AME or competent authority should evaluate the medical condition of the applicant in consultation with the appropriate personnel from the ANSP, such as OJTI and assessors
ThThis paragraph lacks clarity and suggest to re-word
AMC1 ATCO.MED.B.001(c) : limitation codes
The introduction of these limitation codes on the medical certificate is a great change from current procedures. It is an extra administrative burden and the added value for the ATCO and the oversight body remains unclear.
AMC1 ATCO.MED.B.001(d)(2)

	2) Limitations VXL and VXN should be imposed with advice of the air navigation service provider. It is unclear why the ANSP will have a say in only these 2 areas. Either it should be for all the vision restrictions or none. Would this not also be the case for hearing aids? Do not all these limitations depend on the working environment? (e.g. VDL vs VXL).
response	*Partially accepted* Comment 1 in this field: paragraph amended. Comment 2 in this field: noted. The system has changed. Comment 3 in this filed: not accepted. These two limitations depend on the individual workplace.

comment	*44* comment by: *UK CAA* **Page No:** 4 **Paragraph No:** AMC1 ATCO.MED.B.001 **Comment:** Use of VXL and VXN is potentially very confusing. **Justification:** It is not necessary to include VXL and VXN as requirements to wear corrective lenses are adequately covered by VDL/VML/VNL etc. which are well understood by AMEs. **Proposed Text:** Delete VXL and VXN from table Delete paragraph (d) (2) Delete definitions in GM1 ATCO.MED.B.001
response	*Not accepted* The limitations VXL and VXN were introduced on request of NATS to avoid the requirement to wear spectacles in specific work stations in spite of the fact that the visual acuity is not fully in line with the rule.

comment	*45* comment by: *UK CAA* **Page No:** 4 and 5 **Paragraph No:** AMC1 ATCO.MED.B.001 **Comment:** There is no text or explanatory material for CCL and HAL associated with the table on page 4. **Justification:** Improved clarity. **Proposed Text:** Suggested text for guidance material to include: "CCL - see Aircrew Regulation HAL – spare batteries should be available."
response	*Accepted* Paragraph amended.

comment

64 comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.001

Comment:
AMC1 MED.B.001 has been amended to give more clarity to the requirements. Several limitation codes are common to Part-MED for aircrew and ATCO.MED and need to have the same explanation.
The text therefore should be amended to be consistent with Part-MED.

Proposal:
Amend AMC1 ATCO.MED.B.001:
TML 'limited period of validity of the medical certificate'
CCL 'correction for defective vision by means of contact lenses only'
HAL 'hearing aids'
SIC 'specific medical examination(s)'
SSL 'special restriction as specified'
RXO 'specialist ophthalmological examination(s)'

response

Accepted

comment

113 comment by: *EUROCONTROL*

AMC1 ATCO.MED.B.001 (e)

Presumably the licensing authority can remove the limitations only following appropriate medical advice. This is not reflected in the text.

response

Noted

The AME who is of the opinion that a limitation should be removed, but cannot do so because of this requirement, will of course contact the licensing authority.

comment

123 comment by: *Federal Office of Civil Aviation FOCA*

Article:
AMC ATCO.MED.B.001 b)
Comment / Issue / Suggestion:
Suggest rewording
Justification:
unclear what this paragraph is supposed to say.

response

Noted

The paragraph explains that the AME should involve appropriate personnel from

the ASNP if necessary when making the decision on fitness.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 1 GENERAL — GM1 ATCO.MED.B.001 Limitations to medical certificates — LIMITATIONS CODES p. 5-6

comment *65* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: GM1 ATCO.MED.B.001

Comment:
GM1 MED.B.001 has been amended to give more clarity to the requirements. Several limitation codes are common to Part-MED for aircrew and ATCO.MED and need to have the same explanation.
The text therefore should be amended to be consistent with Part-MED for those limitations which are common to both Part-MED and ATCO.MED.

Proposal:
Amend GM1 ATCO.MED.B.001 for the following limitation codes:
TML, VDL, VML, VNL, CCL, HAL, SIC, SSL, RXO

response *Accepted*

comment *114* comment by: *EUROCONTROL*

GM1 ATCO/MED.B.001:

Other limitations than visual imparity seem to be missing.

response *Noted*

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.010 Cardiovascular system p. 6-11

comment *9* comment by: *Direction de la sécurité de l'aviation civile (DSAC)*

	Comment : The procedure described is too burdensome. It is not necessary to involve the licensing authority because it is the responsability of the AME or AeMc according to good medical practice to assess the situation. Proposal (1) Cardiovascular risk factor assessment (i) Serum/plasma lipid estimation is case finding and significant abnormalities should require investigation and management under the supervision by the AeMC or AME ~~in consultation with the licensing authority.~~
response	*Partially accepted* There may be cases where advice from the licensing authority may be helpful and the sentence has been amended to end with '...if necessary'.

comment	*10* comment by: *Direction de la sécurité de l'aviation civile (DSAC)* (1) (ii) Comment : It is not necessary to involve systematically the licensing authority because it the responsabilty of the AME or AeMc according to good medical practice to evaluate the situation (see comment # 9 above) The procedure involving systematically the licensing authority is to burdensome. Proposal (ii) An accumulation of risk factors (smoking, family history, lipid abnormalities, hypertension, etc.) should require cardiovascular evaluation by the AeMC or AME in consultation with the licensing authority **if necessary**
response	*Accepted*

comment	*11* comment by: *Direction de la sécurité de l'aviation civile (DSAC)* AMC1 ATCO MED B 010 (1) (i) Comment The words "AME in consultation with the licensing authority" are to be deleted because the procedure should be under the responsibility of the AME or AeMC according to good medical practice. The procedure described is too burdensome. Proposal (1) Cardiovascular risk factor assessment (i) Serum/plasma lipid estimation is case finding and significant abnormalities should require investigation and management under the supervision by the AeMC or AME ~~in consulation with the licensing authority.~~
response	*Partially accepted* 'if necessary' has been added.

comment	*12* comment by: *Direction de la sécurité de l'aviation civile (DSAC)* AMC1 ATCO MED B 010 Complete left bundle branch block Comment : We don't understand why initial applicants should not wait 12 months of stability as applicants for revalidation or renewal. LBBB is somewhat less common than RBBB, and its presence usually indicates underlying cardiac pathology. LBBB is commonly seen with dilated cardiomyopathy, hypertrophic cardiomyopathy, hypertension, aortic valve disease. Proposal : (7) Complete left bundle branch block A fit assessment may be considered: (i) Initial applicants may be assessed as fit after full cardiological evaluation showing no pathology. **A period of 12 months of stability may be required.**
response	*Partially accepted* The need for a period of stability will depend on the clinical situation. Text amended to state this without giving a specific time frame.

comment	*13* comment by: *Direction de la sécurité de l'aviation civile (DSAC)* (9) Pacemaker Comment : For safety reasons, it is necessary to check the main interactions between the environment pacemaker and work environment are linked to the presence of an electromagnetic field emitted by certain objects in the immediate environment of the wearer. Proposal : add (v) : (9) Pacemaker Applicants with a subendocardial pacemaker may be assessed as fit 3 months after insertion provided: (i) there is no other disqualifying condition; (ii) bipolar lead systems programmed in bipolar mode without automatic mode change have been used; (iii) that the applicant is not pacemaker dependent; (iv) regular cardiological follow-up should include a symptom limited exercise ECG that shows no abnormality or evidence of myocardial ischaemia, a pacemaker check. **(v) check the main interactions between the environment pacemaker and work environment are linked to the presence of an electromagnetic field emitted by certain objects in the immediate environment of the wearer.**
response	*Not accepted* This is covered under the technical instructions for the pacemaker and would be checked with the service provider only. The AME is responsible for the medical evaluation.

comment	*19* comment by: *Direction de la sécurité de l'aviation civile (DSAC)* (4) Mitral valve disease Proposal Applicants with uncomplicated moderate ~~minor~~ mitral regurgitation may be considered as fit
response	*Not accepted* No text change. If the applicant has been assessed as unfit by the AME and the applicant asks for a review, the licensing authority may assess the case under B.001 and decide whether a medical certificate can be issued.

comment	*31* comment by: *NATS National Air Traffic Services Limited* AMC1 ATCO.MED.B.010 (g) 'exemplary control' is hard to define in relation to anticoagulation treatment, this may result in ATCOs being excluded unnecessarily from the workplace Suggest replace with 'exemplary' with 'good': **'…..Anticoagulant therapy should be stable and subject to exemplary control…..'**
response	*Not accepted* The wording was generally agreed as is.

comment	*46* comment by: *UK CAA* **Page No:** 9 **Paragraph No:** AMC1 ATCO.MED.B.010 (k)(2)(iv) **Comment:** Functional perfusion imaging after coronary intervention should be included. **Justification:** Functional imaging should be performed for all modalities of intervention prior to recertification. **Proposed Text:** Amend paragraph (k)(2)(iv) to read: "iv) After coronary **intervention, a myocardial** perfusion scan or equivalent test should be performed, and in all cases on clinical indication **during follow-up**."
response	*Not accepted* The existing text is considered as being appropriate.

comment	*47* comment by: *UK CAA* **Page No:** 10 **Paragraph No:** AMC1 ATCO.MED.B.010 (l)(4)(i)

Comment: Delete differences between initial versus renewal standards.
Justification: There is no justification for different standards.
Proposed Text: Delete paragraph (l)(4)(i).

response *Not accepted*

comment *48* comment by: *UK CAA*

Page No: 11
Paragraph No: AMC1 ATCO.MED.B.010 (l)(7)(i),(ii) and (iii)
Comment: Delete "A period of 12 months of stability may be required".
Justification: Clarity of what stability means and how it is demonstrated.
Proposed Text: Replace paragraphs (l)(7)(i),(ii) and (iii) with paragraphs (i) and (ii) as follows:
"(7) Complete left bundle branch block
A fit assessment may be considered:
(i) Initial applicants may be assessed as fit after full cardiological evaluation showing no pathology. Annual cardiological review should be required to include exercise testing for further 2 years. Further testing may be required on clinical indication.
(ii) Applicants for revalidation or renewal of a medical certificate with de-novo left bundle branch block may be assessed as fit after cardiological evaluation. Annual cardiological review should be required to include exercise testing for further 2 years. Further testing may be required on clinical indication."

response *Partially accepted*

A cardiological evaluation should be done by a cardiologist who will determine the specific tests. '12 months' deleted.
Further amendment of the text could be done in the revision of Part-ATCO.MED.

comment *109* comment by: *Civil Aviation Authority Norway*

Medical expert comment:
(b)(2)(i) – This could be misunderstood such as that extended cardiovascular assessment could be undertaken at an AeMC by any personnel, not a cardiologist. Remove "at an AeMC or"

response *Not accepted*

The evaluation could be done by a cardiologist working at the AeMC.

comment *117* comment by: *HungaroControl*

(K) (ii):
Our opinion is that during the last decade the surgical technique is significantly improved and we believe that this fact is not sufficiently reflected in the

	proposal. Ordinary people with coronary artery disease in cases of stenting are released from hospital after 24 hours observation and can continue working without any special limitation. Based on the safety case results what we have done internally and the consultation with coronary artery disease specialists we suggest to reduce the proposed 6 months suspensions of ATCO license validity for 3 months. After 3 months if the investigation listed on page 9, as "A", "B", "C" and "D" are completed and based on the results the applicants may be assessed as fit, the competent authority, in conjunction with the air navigation service provider, shall determine the operational limitations applicable in the specific operational environment concerned (e.g. applicant can work only at supervisory, or planning controller positions). These operational limitations shall be cancelled after 6 months of the ischaemic myocardial event.
response	*Accepted*

comment	*125* comment by: *Federal Office of Civil Aviation FOCA* Article: AMC1 ATCO.MED.B.010 g) Comment / Issue / Suggestion: Thromboembolic disorders Arterial or venous thrombosis or acute pulmonary embolism are disqualifying whilst anticoagulation is being used as treatment. In cases of anticoagulation as prophylaxis for pulmonary embolism or DVT risk, a fit assessment may be considered subject to a satisfactory report from an appropriate specialist after full evaluation. Anticoagulant therapy should be stable and, where necessary, subject to exemplary control. Subcutaneous heparin treatment may be acceptable subject to a satisfactory report from an appropriate specialist. Justification: this formulation allows to accept also the new generation of oral anticoagulants when medically indicated
response	*Not accepted* At the moment only vitamin K antagonists are accepted. They need to be controlled.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — GM1 ATCO.MED.B.010 Cardiovascular system — CARDIOLOGICAL TESTING p. 11

comment	*66* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.010
Comment: AMC1 MED.B.010 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.010 have a better wording. A consolidated and common version for AMC1 MED.B.010 and AMC 1 ATCO.MED.B.010 should be developed.
Proposal: Develop a common version for AMC1 MED.B.010 and AMC 1 ATCO.MED.B.010.

response *Noted*

This can be done in a revision of individual paragraphs.

comment *67* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: GM1, GM2, GM3 and GM4 ATCO.MED.B.010
Comment: The present text of GM1, GM2, GM3 and GM4 ATCO.MED.B.010 contain only information at a textbook level and should be deleted. Important guidance material on mitral valve disease and ventricular pre-excitation have been introduced as GM1 and GM2 MED.B.010 for aircrew. New GM1 and GM2 ATCO.MED.B.010 should be included to be consistent with Part-MED.
Proposal: Delete present GM1, GM2, GM3 and GM4 ATCO.MED.B.010. Add new GM1 and GM 2 ATCO.MED.B.010: **Use the text from GM1 and GM2 MED.B.010**

response *Accepted*

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.015 Respiratory system p. 12-13

comment	*14* comment by: *Direction de la sécurité de l'aviation civile (DSAC)* Respiratory system An supplementary GM is needed proposal : GM1 ATCO.MED.B.015 respiratory system SLEEP apnea SYNDROME According to the international definition ICSD (International Classification of Sleep Disorders), a patient is considered apneic if its IAH is greater than 15 per hour or well above 5 per hour, with at least two of the following symptoms: sleep not recovery, fatigue, insomnia, waking up without breathing panting, wake up choking, snoring, interruption of respiration by the partner. The assessment of a SAS shall include a registration polysomnography. Ability may be considered provided that it justifies treatment by ventilation by continuous positive airway pressure (CPAP or CPAP, in French) and the compliance data (agenda therapeutic) correct
response	*Partially accepted* Guidance Material will be drafted in a new rulemaking task.

comment	*49* comment by: *UK CAA* **Page No:** 13 **Paragraph No:** AMC1 ATCO.MED.B.015 (e)(2) **Comment:** Applicants with neurological sarcoid should be assessed as unfit. **Justification:** Poses a flight safety issue. **Proposed Text:** Amend paragraph to read: "(e) Sarcoidosis (2) Applicants with cardiac or **neurological** sarcoid should be assessed as unfit."
response	*Accepted*

comment	*68* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.015
Comment: AMC1 MED.B.015 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.015 have a better wording. A consolidated and common version for AMC1 MED.B.015 and AMC 1 ATCO.MED.B.015 should be developed.
Proposal: Develop a common version for AMC1 MED.B.015 and AMC 1 ATCO.MED.B.015.

response	*Partially accepted* A common version of this AMC can be developed in a rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.020 Digestive system p. 13-14

comment	*32* comment by: *NATS National Air Traffic Services Limited* AMC1 ATCO.MED.B.020 (c) (2) Gallstones with only minor symptoms should be considered fit subject to operational risk analysis e.g. no lone working etc. As drafted this could result in ATCOs being excluded unfairly from the workplace Suggested wording: **'(2) Applicants with multiple gallstones may be assessed as fit while awaiting assessment or treatment provided symptoms are unlikely to interfere with flight safety.'**
response	*Accepted*

comment	*33* comment by: *NATS National Air Traffic Services Limited* AMC1 ATCO.MED.B.020 (f) Some surgical procedures especially keyhole operations will have much quicker recovery times. As drafted this could result in ATCOs being excluded unfairly from the workplace Remove 3 months suggested wording: **'f) Abdominal surgery** **Major abdominal surgery may be disqualifying until recovery is complete, the applicant is asymptomatic and the risk of secondary complication or recurrence is minimal.'**
response	*Partially accepted* The intent of the proposal is accepted; however, the wording is as follows: 'Applicants who have undergone a surgical operation on the digestive tract or its adnexa, including a total or partial excision or a diversion of any of these

organs, should be assessed as unfit. A fit assessment may be considered if recovery is complete, the applicant is asymptomatic, and the risk of secondary complication or recurrence is minimal.'

comment

69 comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.020

Comment:
AMC1 MED.B.020 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.020 have a better wording. A consolidated and common version for AMC1 MED.B.020 and AMC 1 ATCO.MED.B.020 should be developed.

Proposal:
Develop a common version for AMC1 MED.B.020 and AMC 1 ATCO.MED.B.020.

response

Partially accepted

The intent of the proposal is accepted; however, this can only be done in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.025 Metabolic and endocrine system p. 14-15

comment

15 comment by: *Direction de la sécurité de l'aviation civile (DSAC)*

AMC1 ATCO MED B 025 (e) (1) (ii)
Comment
(ii) thiazolidinediones are prohibited from prescribing
Proposal
the (ii) should be deleted
(e) Diabetes mellitus
(1) The following medication, alone and in combination, may be acceptable for control of type 2 diabetes:
(i) alpha-glucosidase inhibitors;
~~(ii) thiazolidinediones;~~

(iii) medication that acts on the incretin pathway;
(iv) biguanides.

response *Accepted*

comment *16* comment by: *Direction de la sécurité de l'aviation civile (DSAC)*

AMC1 ATCO MED B 025 Metabolic and endocrine system
(e) (2) (3)
DGAC has set up a high level medical working group on this topic. French comment will be completed with the conclusions of the high level medical group.

response *Partially accepted*

The conclusion on the high level medical group will be considered if available before the Decision is published.

comment *70* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.025

Comment:
AMC1 MED.B.025 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.025 have a better wording. A consolidated and common version for AMC1 MED.B.025 and AMC 1 ATCO.MED.B.025 should be developed.

Proposal:
Develop a common version for AMC1 MED.B.025 and AMC 1 ATCO.MED.B.025.

response *Partially accepted*

The intent of the proposal is accepted; however, this can only be done in a new rulemaking task.

comment *118* comment by: *HungaroControl*

Diabetes mellitus:

	Concerning the Diabetes Mellitus we agree with the present medical knowledge that the risk of hypoglycaemia in persons (including ATCOs) treated with insulin can be reduced to an acceptable level by close monitoring and control of blood sugar levels by that person. A safety assessment showed that ATCO with insulin-treated diabetes could be employed in positions such as supervisor or planning controller without jeopardizing safety of air traffic, therefore we propose to have the necessary amendment into the AMC part.
response	*Noted* A European Diabetes Panel with high level specialists in the field will be held in February 2014 to evaluate the possibilities for the medical assessment of pilots and ATCOs with IDTM. The outcome of the Panel will lead to a Concept Paper to be presented to the EASA Advisory Bodies. A joint decision will be taken whether or not to create a rulemaking task on this issue. For the time being, the rule will not be changed and for the time being remain ICAO compliant.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.030 Haematology p. 15

comment	*34* comment by: *NATS National Air Traffic Services Limited* AMC1 ATCO.MED.B.030 ATCOs on with sickle cell disease may have a mild illness and unlike pilots will not be affected by the hypoxic environment of the cockpit. This could result in ATCOs being excluded unfairly from the workplace Suggested wording: **'2) Applicants with sickle cell disease may be considered for certification on a case by case basis'**
response	*Partially accepted* The intent of the comment has been accepted. Subparagraph (2) has been deleted and sickle cell anaemia is included in the list of the conditions where a fit assessment may be considered.

comment	*50* comment by: *UK CAA* **Page No:** 15 **Paragraph No:** AMC1 ATCO.MED.B.030 (d) **Comment:** This AMC does not allow for lymphoid malignancies that either only require minor treatment and some that do not require active treatment. **Justification:** Many conditions (treated or untreated) progress very slowly and

	only require monitoring. **Proposed Text:** Amend paragraph (d) to read: "(d) Disorders of the lymphatic system Lymphatic enlargement requires investigation. A fit assessment may be considered in cases of an acute infectious process which is fully recovered or Hodgkin's lymphoma or other lymphoid malignancy which has been treated and is in full remission, **or that requires minimal or no treatment**."
response	*Accepted*

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — GM1 ATCO.MED.B.030 Haematology — BLOOD TESTING p. 16

comment	*35* comment by: *NATS National Air Traffic Services Limited* GM1 ATCO.MED.B.030 ATCO.MED.B.030 Haematology states that: '(a) Blood testing, if any, shall be determined by the AME or AeMC taking into account the medical history and following the physical examination.' NATS welcomes this as it means that blood testing will only be performed now on clinical grounds. However, to have 2 yearly and 4 yearly intervals in the guidance no longer makes sense as blood tests are now only required on clinical grounds Suggest delete: **'GM1 ATCO.MED.B.030 Haematology** **BLOOD TESTING** **Blood testing may form part of the aero-examination:** **(a) for initial issue of a medical certificate;** **(b) for revalidation or renewal of medical certificates:** **(1) at 4-yearly intervals until the age of 40; and** **(2) at 2-yearly intervals thereafter.'**
response	*Accepted*

comment	*71* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)* Section: AMC1 ATCO.MED.B.030 **Comment**: AMC1 MED.B.030 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.030 have a better wording. A consolidated and common version for AMC1 MED.B.030 and AMC 1 ATCO.MED.B.030 should be developed. **Proposal:**

Develop a common version for AMC1 MED.B.030 and AMC 1 ATCO.MED.B.030.

response *Partially accepted*

The intent of the comment is accepted, but this can only be done in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.035 Genito-urinary system p. 16-17

comment *72* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.035

Comment:
AMC1 MED.B.035 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.035 have a better wording. A consolidated and common version for AMC1 MED.B.035 and AMC 1 ATCO.MED.B.035 should be developed.

Proposal:
Develop a common version for AMC1 MED.B.035 and AMC 1 ATCO.MED.B.035.

response *Partially accepted*

The intent of the comment is accepted, but this can only be done in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS p. 17

FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.040 Infectious disease

comment *73* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.040

Comment:
AMC1 MED.B.040 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.040 have a better wording. A consolidated and common version for AMC1 MED.B.040 and AMC 1 ATCO.MED.B.040 should be developed.

Proposal:
Develop a common version for AMC1 MED.B.040 and AMC 1 ATCO.MED.B.040.

response *Partially accepted*

The intent of the comment is accepted, but this can only be done in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — GM1 ATCO.MED.B.040 Infectious disease — HIV INFECTION p. 18

comment *51* comment by: *UK CAA*

Page No: 18
Paragraph No: GM1 ATCO.MED.B.040
Comment: Delete 'or epidemiological grounds'.
Justification: It is unclear what the epidemiological grounds are for HIV testing in a regulatory setting.
Proposed Text: Amend paragraph (a) to read:
(a) There is no requirement for routine testing of HIV status, but testing may be carried out on clinical indication."

response | *Accepted*

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.045 Obstetrics and gynaecology p. 18

comment | *74* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.045

Comment:
AMC1 MED.B.045 has been amended to give more clarity to the requirements. The 3 month period for unfit assessment has been deleted. However, some paragraphs in AMC1 ATCO.MED.B.045 have a better wording.
The text should be amended to create a common version for AMC1 MED.B.045 and AMC 1 ATCO.MED.B.045.

Proposal:
Amend AMC1 ATCO.MED.B.045:
(a) Gynaecological surgery
An applicant who has undergone a major gynaecological operation should be assessed as unfit until recovery is complete, the applicant is asymptomatic and the risk of secondary complication or recurrence is minimal.
(b) Pregnancy
(1) A pregnant licence holder may be assessed as fit during the first 34 weeks of gestation provided obstetric evaluation continuously indicates a normal pregnancy.
(2) The AeMC or AME, or the licensing authority, should provide written advice to the applicant and the supervising physician regarding potentially significant complications of pregnancy which may negatively influence the safe exercise of the privileges of the licence.

response | *Accepted*

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.050 Musculoskeletal system p. 18

comment *75* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.050

Comment:
AMC1 MED.B.050 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.050 have a better wording. A consolidated and common version for AMC1 MED.B.050 and AMC 1 ATCO.MED.B.050 should be developed.

Proposal:
Develop a common version for AMC1 MED.B.050 and AMC 1 ATCO.MED.B.050.

response *Partially accepted*

The intent of the comment is accepted, but this can only be done in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — GM1 ATCO.MED.B.050 Musculoskeletal system p. 18

comment *52* comment by: *UK CAA*

Page No: 18
Paragraph No: GM1 ATCO.MED.B.050
Comment: Replace the term 'Osteoarthritic or muscular tendon progressive conditions'.
Justification: Static conditions need to be included and 'musculoskeletal and rheumatological' are more inclusive of relevant disorders.
Proposed Text: Amend paragraph to read:
"**Static or progressive musculoskeletal and rheumatological** conditions may be of congenital or acquired origin. Any functional upset as well as side effects of medication, if needed to control symptoms, should be evaluated against the impact on the individual's ability to operate satisfactorily in the working environment."

response *Partially accepted*

A new paragraph has been added that is more general, but should cover the intent of the comment:
'Applicants with inflammatory, infiltrative, or degenerative disease of the musculoskeletal system may be assessed as fit provided the condition is in remission and the medication is acceptable.'

comment *76* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: GM1 ATCO.MED.B.050

Comment:
The text of GM1 ATCO.MED.B.050 contains only information at a textbook level and should be deleted.

Proposal:
Delete GM1 ATCO.MED.B.050.

response *Accepted*

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.055 Psychiatry p. 19

comment *25* comment by: *Aaron Curtis Prospect ATCOs' Branch UK*

(b) Mood disorder

Provisions for pilots are less stringent then these proposals for ATCOs. We propose that the requirements should be the same, and there is no reason why an ATCO cannot be assessed as fit following a period of stability with an appropriate limitation.

We propose a re word to:

(b) Mood disorder
Applicants with an established mood disorder should be assessed as unfit. A fit assessment may be considered after full recovery and psychotropic treatment has been stopped for an appropriate period. If there was a full recovery and psychotropic treatment is stable a fit assessment should require a medical

certificate limitation. Full consideration should be given to the individual case and the characteristics and gravity of the mood disorder.

response *Partially accepted*

AMC 1 ATCO.MED.055 has been aligned with Part-MED; however, the text differs from the proposal in this comment.

comment *36* comment by: *NATS National Air Traffic Services Limited*

AMC1 ATCO.MED.B.055 (b)
ATCOs who are prescribed antidepressant medication are excluded from the workplace. This results in ATCOs concealing their depression which poses a much greater risk to flight safety. Professional pilots who take maintenance doses of antidepressants are now considered for certification after specialist assessment.
See extract from EASA Class 1 below:
Class 1
(e) Mood disorder
An established mood disorder is disqualifying. After full recovery and after full consideration of an individual case a fit assessment may be considered, depending on the characteristics and gravity of the mood disorder. If a stable maintenance psychotropic medication is confirmed, a fit assessment should require an OML limitation
Suggested amendment:
'Applicants with an established mood disorder should be assessed as unfit. A fit assessment may be considered after full recovery. Full consideration should be given to the individual case and the characteristics and gravity of the mood disorder. If on stable maintenance psychotropic medication then a fit assessment can be considered after specialist assessment and subject to an operational risk analysis.'

response *Partially accepted*

AMC1 ATCO.MED.055 has been aligned with Part-MED; however, the text differs from the proposal in this comment.

comment *77* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.055

Comment:
AMC1 MED.B.055 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.055 have a better wording. A consolidated and common version for AMC1 MED.B.055 and AMC 1 ATCO.MED.B.055 should be developed.

Proposal:

Develop a common version for AMC1 MED.B.055 and AMC 1 ATCO.MED.B.055.

response *Partially accepted*

Subparagraph (b) on mood disorders has been aligned with Part-MED. More changes should undergo consultation and will be addressed in a new rulemaking task.

comment *89* comment by: *ATCEUC- Air Traffic Controllers European Unions Coordination*

Attachment #1

AMC1 ATCO.MED.B.055(b)

Comment:

ATCEUC doesn't understand why there is a difference between pilots and ATCOs. Pilots may be allowed to work under medication while ATCOs don't…

AMC1 ATCO.MED.B.055 *new text*

(b) *Mood disorder*

Applicants with an established mood disorder should be assessed as unfit. A fit assessment may be considered after full recovery and psychotropic treatment has been stopped for an appropriate period. If there was a full recovery and psychotropic treatment is stable a fit assessment should require a medical certificate limitation. Full consideration should be given to the individual case and the characteristics and gravity of the mood disorder.

response *Partially accepted*

AMC1 ATCO.MED.055 has been aligned with Part-MED; however, the text differs from the proposal in this comment.

comment *95* comment by: *Federazione ATM-PP*

Federazione ATM-PP proposal on AMC1 ATCO.MED.B.055 (b) is to change as follows:
Applicants with an established mood disorder should be assessed as unfit. A fit

	assessment may be considered after full recovery and psychotropic treatment has been stopped for an appropriate period. If there was a full recovery and psychotropic treatment is stable a fit assessment should require a medical certificate limitation. Full consideration should be given to the individual case and the characteristics and gravity of the mood disorder.
response	*Partially accepted* AMC1 ATCO.MED.055 has been aligned with Part-MED; however, the text differs from the proposal in this comment.

comment	*97* comment by: *European Transport Workers Federation - ETF* **AMC1 ATCO.MED.B.055 (b)** "(b) Mood disorder Applicants with an established mood disorder should be assessed as unfit. A fit assessment may be considered after full recovery and psychotropic treatment has been stopped for an appropriate period. If there was a full recovery and psychotropic treatment is stable a fit assessment should require a medical certificate limitation. Full consideration should be given to the individual case and the characteristics and gravity of the mood disorder." ETF doesn´t understand the difference between the provisions for pilots and for ATCOs. Pilots may be allowed to work under medication and ATCOs may not ? These provisions should be identical for pilots and ATCOs.
response	*Partially accepted* AMC1 ATCO.MED.055 has been aligned with Part-MED; however, the text differs from the proposal in this comment.

comment	*100* comment by: *SINCTA - Portuguese Air Traffic Controllers' Union* AMC1 ATCO.MED.B.055(b) **SINCTA** doesn´t understand the difference between the provisions for pilots and for ATCOs. Pilots may be allowed to work under medication and ATCOs don't? These provisions should be identical for pilots and ATCOs. Proposed text: *Mood disorder* *Applicants with an established mood disorder should be assessed as unfit. A fit assessment may be considered after full recovery and psychotropic treatment has been stopped for an appropriate period. If there was a full recovery and psychotropic treatment is stable a fit assessment should require a medical certificate limitation. Full consideration should be given to the individual case and the characteristics and gravity of the mood disorder.*
response	*Partially accepted* AMC1 ATCO.MED.055 has been aligned with Part-MED; however, the text differs from the proposal in this comment.

comment	*105* comment by: *USCA* **AMC1 ATCO.MED.B.055(b)** Pilots may be allowed to work under medication and ATCOs don't? These provisions should be identical for pilots and ATCOs. *"(b) Mood disorder* *Applicants with an established mood disorder should be assessed as unfit. A fit assessment may be considered after full recovery and psychotropic treatment has been stopped for an appropriate period. If there was a full recovery and psychotropic treatment is stable a fit assessment should require a medical certificate limitation. Full consideration should be given to the individual case and the characteristics and gravity of the mood disorder."*
response	*Partially accepted* AMC1 ATCO.MED.055 has been aligned with Part-MED; however, the text differs from the proposal in this comment.

comment	*110* comment by: *comments provided on behalf of FIT/CISL italian trade union* In reference to the **AMC1 ATCO.MED.B.055(b)** FIT/CISL thinks that these provisions should be identical for pilots and ATCOs, so we propose to change it as follows: "Applicants with an established mood disorder should be assessed as unfit. A fit assessment may be considered after full recovery and psychotropic treatment has been stopped for an appropriate period. If there was a full recovery and psychotropic treatment is stable a fit assessment should require a medical certificate limitation. Full consideration should be given to the individual case and the characteristics and gravity of the mood disorder.""
response	*Partially accepted* AMC1 ATCO.MED.055 has been aligned with Part-MED; however, the text differs from the proposal in this comment.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.060 Psychology p. 19

comment	*24* comment by: *skyguide Corporate Regulation Management*

AMC 1 ATCO.MED.B.060(a)
If a psychological evaluation is indicated, it should be carried out by a psychologist taking into account the ATC environment and the associated risks.
In many countries the profession of psychologist (rather than psychiatrist) is not recognised and protected. Therefore it remains to be understood what profession one is referring to here. There are also many different kinds of psychology which may come up with different results and outcomes.
The psychologist will probably not have a sufficient understanding the operational environment of the ATCO, nor of the associated risks. Presumption here could lead to problematic decisions.
AMC 1 ATCO.MED.B.060(b)
A psychological evaluation should only be required on the basis of established evidence. This evidence should be verifiable information from an identifiable source which evokes doubts concerning the mental fitness or personality of a particular individual. Sources for this information can be accidents or incidents, problems in training or competency assessment, delinquency or knowledge relevant to the safe exercise of the privileges of the licence.
This provision appears to overlap and even contradict both the provision for provisional inability (ATCO.A.015) and the human factors provision coming in the ATM001/004 NPA.
Delinquency would be a reason to suspend, if not revoke a licence and a delinquent ATCO would also probably not gain entrance to the premises, due to security measures, to be able to exercise the privileges of his licence.

response *Noted*

AMC1 ATCO.MED.B.060(a): noted.
AMC1 ATCO.MED.B.060(b): noted.

comment *78* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.060

Comment:
AMC1 MED.B.060 has been amended to give more clarity to the requirements. The 3 month period for unfit assessment has been deleted. However, some paragraphs in AMC1 ATCO.MED.B.060 have a better wording.
The text should be amended to create a common version for AMC1 MED.B.060 and AMC 1 ATCO.MED.B.060.

Proposal:
Amend AMC1 ATCO.MED.B.060:
(a) /no change/
(b) `Where there is established evidence that an applicant may have a psychological disorder, the applicant should be referred for psychological opinion and advice.
(c) Established evidence should be verifiable information from an identifiable source related to the mental fitness or personality of a particular individual. Sources for this information can be accidents or incidents, problems in training or competency checks, behaviour or knowledge relevant to the safe exercise of the privileges of the licence.
(d) The psychological evaluation may include a collection of

	biographical data, the administration of aptitude as well as personality tests and psychological interview. **(e) The psychologist should submit a written report to the AME, AeMC or licensing authority as appropriate, detailing his/her opinion and recommendation.'**
response	*Accepted*

comment	*126* comment by: *Federal Office of Civil Aviation FOCA* Article: AMC ATCO.MED.B.060 Comment / Issue / Suggestion: (a) If a psychological evaluation is indicated, it should be carried out by a psychologist taking into account the ATC environment and the associated risks. Justification: How is it ensured that the Psychologist has an ATC enironment understanding and the associated risks?
response	*Noted* The psychologist has to take the situation of the ATCO into account as the ATCO explains it. Psychologists deal with the problem, e.g. burnout syndrome, in any profession and base their judgement on what the patient explains.

comment	*127* comment by: *Federal Office of Civil Aviation FOCA* Article: AMC ATCO.MED.B.060 Comment / Issue / Suggestion: (b) A psychological evaluation should only be required on the basis of established evidence. This evidence should be verifiable information from an identifiable source which evokes doubts concerning the mental fitness or personality of a particular individual. Sources for this information can be accidents or incidents, problems in training or competency assessment, delinquency or knowledge relevant to the safe exercise of the privileges of the licence. Justification: this might endanger the provisional inability according to ATCO.A.015.
response	*Noted* Part-ATCO.MED deals with medical fitness in all areas as laid down in ICAO Annex 1. Psychology is one of the fields to be addressed if indicated.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.065 Neurology p. 19-20

comment *79* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.065

Comment:
AMC1 MED.B.065 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.065 have a better wording. A consolidated and common version for AMC1 MED.B.065 and AMC 1 ATCO.MED.B.065 should be developed.

Proposal:
Develop a common version for AMC1 MED.B.065 and AMC 1 ATCO.MED.B.065.

response *Partially accepted*

The intent of the comment is accepted, but it needs a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.070 Visual system p. 20-23

comment *2* comment by: *Erik Sundqvist*

Following amendments on page 21-22 should be made:

(d) Refractive error

~~(1) Applicants with a refractive error exceeding +5.0 dioptres should be assessed as unfit.~~

(2) Applicants with a refractive error between **+8.0/-8.0 dioptres** may be assessed as fit provided that optimal correction has been considered and no

significant pathology is demonstrated. If the refractive error exceeds +3.0/-3.0 dioptres a 4-yearly follow up by an eye specialist should be required.

(3) Applicants with:
(i) a refractive error exceeding **-8.0 dioptres**;
(ii) an astigmatic component exceeding 3 dioptres; or
(iii) anisometropia exceeding 3 dioptres;
may be considered for a fit assessment if:
(A) no significant pathology can be demonstrated;
(B) optimal correction has been considered;
(C) visual acuity is at least 6/6 (1.0) in each eye separately with normal visual fields while wearing the optimal spectacle correction;
(D) 2-yearly follow-up is undertaken by an eye specialist.

(Note: or remove (3) due to amendments (1) and (2) above)

(4) Applicants who need a ~~myopic~~ correction exceeding **+5.0/-6.0 dioptres,** should wear **well tolerated** contact lenses or spectacles with high index lenses in order to minimize peripheral field distortion.
or;

(4) Applicants who need a ~~myopic~~ correction exceeding **+5.0/-6.0 dioptres,** should wear **well tolerated** contact lenses ~~or spectacles with high index lenses~~ in order to minimize peripheral field distortion. (Note: see ex. 2 below)
Justification:

I will now present two examples, both showing that amendments in this paragraph are highly recommended. Following examples from Council's Directives implicate that the level of refractive error is not that important, rather the lack of negative effects associated with a higher refractive error, such as distortion in the field of vision. Modern techniques enables applicants with stronger glasses to achieve good results, I see no reason why the current limit for an air traffic controller medical license is only +5.0/-6.0 dioptres?

Example 1:

Previously, on 10th July 1996 (96/427/EC) the Commission has derogated from the provisions of Annex III of Council Directive 91/439/EEC, regarding group 2 driver's license:

"Whereas in accordance with item 6.3 of Annex III the maximum allowed strength for glasses of group 2 drivers has to be plus or minus 4 dioptres, notably because of distortion of the field of vision if stronger glasses had to be used; whereas, however, application of modern techniques and materials has made it possible to now produce glasses up to plus or minus 8 dioptres without such distortion."

I agree with the Commission's decision in the text above. Furthermore, that the developments of medical science justify an adjustment of the current refractive error limits for air traffic controllers (currently +5.0/-6.0 dioptres).

Applicants for an air traffic controller medical certificate with a greater refractive error (i.e. exceeding +5.0/-6.0 dioptres) could compensate for this by using well-tolerated correcting lenses or spectacles in order to achieve sufficient vision, without any negative effects and at all time during working operations, covered in (4) above.

Example 2:

In paragraph 6.3 from the provisions of Annex III of Council Directive 91/439/EEC:

"6.3.Applicants for a driving licence or for the renewal of such a licence must have a visual acuity, with corrective lenses if necessary, of at least 0,8 in the better eye and at least 0,5 in the worse eye. If corrective lenses are used to attain the values of 0,8 and 0,5, the uncorrected acuity in each eye must reach 0,05, or else the minimum acuity (0,8 and 0,5) must be achieved ***either by correction by means of glasses with a power not exceeding plus or minus four dioptres or with the aid of contact lenses*** *(uncorrected vision = 0,05). The correction must be well tolerated. Driving licences shall not be issued to or renewed for applications or drivers without a normal binocular field of vision or suffering from diplopia."*

For group 2 drivers, refractive error is only relevant when glasses are being used. The tolerable refractive error can therefore be greater than stated +4.0/-4.0 dioptres (now +8.0/-8.0) if the applicant instead uses correcting lenses. According to Council Directive 91/439/EEC, distortion of the field of vision is only, or mainly, an issue when using stronger glasses and not correcting lenses.

Applicants for an air traffic controller medical certificate with a greater refractive error (i.e. exceeding +5.0/-6.0 dioptres) could compensate for this by having the demand to use well-tolerated correcting lenses in order to minimize potential peripheral field distortion, covered in (4) above.

Summary:

These two examples highlights the fact that the NPA 2012-18 (B.VI) needs to be modified regarding its visual requirements for air traffic controllers. Especially since both activities (driving & controlling airplanes) contain similar elements of safety for other individuals involved (passengers, flight crew, pedestrians & co-drivers).

response *Not accepted*

Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.
As far as we know, there is no research comparing the workplaces of ATCOs and class 2 drivers to establish similarities (or not) with regard to the visual demands. It is therefore difficult to do this comparison without a scientific basis for these rules.

comment *3* comment by: *Erik Sundqvist*

Remove the following criteria on page 23, paragraph ***(h) Eye surgery****:*

(1) After refractive surgery or surgery of the cornea including cross linking, a fit

assessment may be considered, provided that:

~~(i) pre-operative refraction was between +5 or -6 dioptres;~~

Instead begin with;

(i) satisfactory stability of refraction...

I suggest that the above crossed sentence will be removed and let the actual, post-operative conditions (criteria ii, iii, iv, v, and vi) of the applicant's visual system decide whether an applicant can be assessed as fit after refractive surgery.

Comment:

The Swedish Agency of Transportation has not given me a medical explanation of this criterion, or why it's relevant. It has even been forwarded to EASA, without success. My inquiry was regarding the current limit for eye surgery (+5, -6 dioptres), and the reasons for these specific limits.

Eye surgery is a rather common procedure nowadays, and great developments have been made in this field. If there exists an uncertainty around what effects the current methods might have in the future, what difference does it make if the applicant's pre-operative refraction was +5,5 or -6,5 dioptres? It's doubtful that this exact limit eliminates the possibility of any negative effect refractive surgery might have.

It can also be regarded as a question of moral. E.g. An applicant who has undergone a successful eye surgery with no post-operative complications and meets all criteria's in **AMC1 ATCO.MED.B.070 Visual system** (h)(1) except (i), together with all other visual requirements. Due to outdated regulation this applicant can't be assessed as fit and be granted a medical certificate for an air traffic controller license. It is something very wrong in denying this applicant the opportunity this surgery could have been, i.e. the opportunity of a dream-job, just because of an outdated regulation that no one in Europe can explain.

I suggest that applicants in this position will be handled individually and based on present eye conditions, not judged of their past refraction error. If conditions change, it will be detected by the annual revalidation. In that way, the safety aspect this regulation is supposed to uphold never gets compromised.

If it's not possible to remove criteria (i), a complementary measure can be issued in order to detect any potential post-operative complications. Following is an example of a valid amendment to this paragraph:

"Applicants with a pre-operative refraction exceeding +5.0/-6.0 dioptres should require a 4-yearly follow-up by an eye specialist and that the examination of the eye shows no post-operative complications."
Justification:

ICAO:

ICAO's International Standards and Recommended Practices includes no criteria regarding pre-operative refraction error preventing applicants who have undergone refractive surgery.

In ICAO Document 8984, Refractive surgery (III-11-32):

"Surgical correction of refractive errors is increasing dramatically and technological advances are frequent."

"The aim is generally to allow the patient to do away with spectacles or contact lenses. However, refractive surgery is now widely used to correct refractive errors of a degree that previously prevented applicants from obtaining medical certifycation needed to work in the aviation environment."

"Applicants who have had refractive surgery and are being considered for medical certification or recertification should meet the following criteria:
a) The surgery is uncomplicated.
b) Vision is stable.
c) There is no corneal haze and no complaints of glare, halos or "ghosting".
d) The result meets the visual requirements of Annex 1, and the assessment must be based on measurements made by a qualified vision care specialist acceptable to the Licensing Authority.
e) There should be follow-up examinations by a qualified vision care specialist six months after return to duty and yearly thereafter."

This indicates that ICAO sees no issue regarding applicants, with non-acceptable refractive error, performing refractive surgery in order to obtain a medical certification for air traffic controller license. Note, this doesn't mean refractive surgery is always accepted. But, fit assessments for applicants who have undergone refractive surgery are based solely on the conditions of the visual system **after** the surgery.

Professional opinions:

In 2010, I discussed this matter with the Swedish Doctors Jan Ygge and Axel Åhrberg (AME's, eye specialists). Their opinions were that the current regulation is out of date regarding its view on eye surgery, and that this criterion is adopted from previous chapters in this document regarding refractive error. The uncertainty in what extent to allow the increasingly popular and advanced methods available to correct and improve a person's visual system is the most probable explanation to this criterion. Despite this, the NPA 2012-18 (B.VI) hasn't been updated or changed to follow the evolution on the field of eye surgery.

For example, the LASEK/ELSA method has a great success rate and its advanced technology makes post-operative risks and complications very rare. The procedure makes almost no impact on the eye, basically just shaping of the cornea with an excimer-lazer. According to specialists, the only consequence this kind of procedure has is that the effect might degrade after some time (several years), but an additional procedure can in that case correct it. This reminds very much of the natural variation in a person's vision as he gets older.

Dr. Ygge and Dr. Åhrberg also mentioned that the relevance of the criterion is questionable. There isn't any difference in success-rate and no medical evidence of higher risks regarding post-operative complications for applicants who have undergone eye surgery, by any of the modern methods, with pre-operative refraction exceeding stated values (+5,0/-6,0 dioptres). *(Note: Dr. Axel Åhrberg, well-known and respected eye surgeon in Sweden. Dr. Jan Ygge , Professor of ophthalmology and eye diseases specialist)*

I suggest that every applicant who has undergone eye surgery is viewed individually and based on relevant factors after the surgery. Fit assessment is in that way delegated to an ophthalmologist or equivalent, approved by the licensing authority.

Summary:

Many future conditions regarding a person's health are almost impossible to foresee, i.e. accidents, sudden diabetes, stroke etc. The point is that you, or any authority, can't protect yourself/itself from all possible and future situations where the health *(read: vision)* might be affected and maybe not longer fit for a medical certificate. If that's the case, annual revalidation will detect and evaluate these new conditions.

By studying this subject and discussing it with professionals, I have learned that this criterion was decided upon as a kind of precaution, because an uncertainty of eye surgery existed. This was a long time ago, and as the years have passed no real argument longer exists to why it should remain. It's now time that this change is made regarding eye surgery criterias, and allow the system of annual revalidations to work as it should. As continued receipts that the air traffic controller's visual abilities meets the current standards.

response *Partially accepted*

The limit of pre-operative refraction for myopia (– 6 dpt) has been deleted. The limit for hypermetropia (+ 5 dpt) has been kept for clinical reasons.

comment *17* comment by: *Direction de la sécurité de l'aviation civile (DSAC)*

Comment
cf NPA 2012-18 (BII)
ATCO .MED.B.070
Proposal :
(j) Correcting lenses
Spectacles should permit the licence holder to meet the visual requirements at all distances.
Contact lenses shall be mono-focal.

response *Partially accepted*

'Spectacles' accepted.
'Contact lenses' is not added because this would be a repetition of the rule in ATCO.MED.070(k)(4).

comment *26* comment by: *Aaron Curtis Prospect ATCOs' Branch UK*

(d) (1) Refractive error.

The proposals should be changed to only initial applications as ATCOs who fall

	below this standard part way through their career could be disadvantaged, where corrective vision could be used to enable them to continue to work. We propose a re word to: (d) (1) Initial applicants with a refractive error exceeding +5.0 dioptres should be assessed as unfit.
response	*Not accepted* Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.

comment	*30* comment by: *DFS Deutsche Flugsicherung GmbH* AMC1 ATCO.MED.B.070 In comparison to the current Eurocontrol Class 3 Requirements, AMC1 ATCO.MED makes no difference between the requirements to be met at initial examination (cf. Class 3, 14.1 (c)/ 14.1.2) vs. at later examinations. **Proposals:** **1.** The criteria from Class 3 for the initial examination on the visual system should be kept. I.e. to take over the criteria from: Eurocontrol Class 3, EMCR 14.1 (b) to (e) and 14.1.2 to 14.1.4., and all other criteria in Eurocontrol Class 3, where a difference between initial and revalidation examination is made. **2.** The purpose and function of initial vs. revalidation vs. renewal examination should be elaborated in the IR. **Rationale:** Making no difference between initial examination and revalidation implies risks for the staffing of the European ATM, especially with regard to the visual system. The refractive error is subject to change, especially at the age of most ATCO trainees (between 18 and 30 yrs). When an applicant is accepted being close to the limits at initial examination, the lack of different criteria between initial and revalidation examinations bear the risk that the limits will be reached already during the first years of ATCO training or work. This imposes high risks on ATCO staffing as the ATCO/trainee can usually not be replaced immediately, leading to understaffing. (Especially in comparison to pilots which are available more easily). Apart from that, there is no benefit for the trainee. As the IR and AMC generally assume a difference between initial, revalidation and renewal examination, the function of the initial examination is supposed to be an exclusion of general and basic risks before starting a further ATCO career. This function can only be fulfilled when criteria are applied which prevent the occurrence of certain symptoms or disorders in a longer time horizon. This in turn can be achieved only by applying different criteria between initial and follow up examinations. Therefore, at least the criteria from Eurocontrol Class 3 requirements defining a stricter limit for initial examinations and allowing for fit assessments in case of exceeding this limit only at revalidation or renewal examinations should be taken over.
response	*Noted*

The limits for refractive errors in the EUROCONTROL Guidelines are:
'14.1(c) At initial examination, an applicant with a refractive error within the range +5.0/-6.0 dioptres: may be assessed as fit if:...' and
'14.1.2 At revalidation or renewal, an applicant with refractive errors of up to +5 dioptres or high myopic refractive errors exceeding -6 dioptres may be considered fit by an AMS if:...'.
This has been transposed to the new requirements in AMC1 ATCO.MED 070(d)(1) for the general limit of + 5 dpt, (d)(2) for initial applicants the limit of – 6 dpt, and in (d)(3) for revalidation with no limit of refractive error in myopia.

comment *37* comment by: *NATS National Air Traffic Services Limited*

AMC1 ATCO.MED.B.070 (b) (3)
We are not clear what this means, suggest that further explanation and review of wording is required

response *Noted*

This may clarify (b)(3):
Objective refraction: Objective refraction includes retinoscopy and the use of autorefractors.
Cyclopleagia: paralysis of the ciliary muscle of the eye, resulting in a loss of accommodation. This is done by local application of medication. The method is used to determine the correct hypermetropia in young persons.

comment *38* comment by: *NATS National Air Traffic Services Limited*

AMC1 ATCO.MED.B.070 (d) (1)
The refractive limits should apply to initial applicants only and not at renewal. If the limits are applied to all applicants then ATCOs will be unfairly excluded from the workplace and this is high risk to the ATCO and to the employer who has paid to train the ATCO. Provided Visual acuity is satisfactory then there should be no limit on refraction at renewal medical
Should read:
'd) Refractive error
(1) Initial Applicants with a refractive error exceeding +5.0 dioptres should be assessed as unfit.'

response *Not accepted*

Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.

comment *39* comment by: *NATS National Air Traffic Services Limited*

	AMC1 ATCO.MED.B.070 (d) (3) (c) These limits are higher than class 1 and existing Eurocontrol limits. This will result in ATCOs being unfairly excluded from the workplace Suggest limits remain the same as for current class1 and class 3 Should read: **'(C) visual acuity is at least 6/9 (1.0) in each eye separately and 6/6 binocular vision with normal visual fields while wearing the optimal spectacle correction;'**
response	*Noted* This limit applies only to applicants who need a high correction for myopia (more than – 6 dpt) and/or have other significant refractive errors. It does not apply to applicants who have a lesser degree of ametropia.

comment	*53* comment by: *UK CAA* **Page No**: 21 **Paragraph:** AMC1 ATCO.MED.B.070 (b)(3) **Comment:** Need to reduce indication for cycloplegic refraction from '+2' to '+3'. **Justification:** This requirement is to detect those who have a true refraction of >+5 who compensate. Starting at +3 is appropriate to prevent unnecessary cycloplegia. **Proposed Text:** Amend paragraph to read: "(b)(3) objective refraction — hyperopic initial applicants with a hyperopia of more than **+3** dioptres and under the age of 25 in cycloplegia;"
response	*Not accepted* Younger persons can accommodate up to + 7 dpt.

comment	*54* comment by: *UK CAA* **Page No:** 23 **Paragraph No:** AMC1 ATCO. MED.B.070 (h)(2) **Comment:** TNO is too narrow a definition of acceptable testing. Remove reference to TNO. **Justification:** TNO is not the only test. **Proposed Text:** "Testing should be carried out to demonstrate fusion."
response	*Partially accepted* The wording will be '... TNO testing or equivalent'.

comment	*55* comment by: *UK CAA* **Page No:** 23

Paragraph No: AMC1 ATCO. MED.B.070 (h)(2)
Comment: The minimum period of unfitness should be 6 weeks not 2 months for applicants who have undergone cataract surgery and who's visual requirements are met either with contact lenses or with intraocular lenses (monofocal, non-tinted) as current techniques allow quicker recovery.
Justification: To reflect current techniques and align with aircrew requirements.
Proposed Text: "Applicants who underwent cataract surgery may be assessed as fit after **6 weeks** provided that the visual requirements are met either with contact lenses or with intraocular lenses (monofocal, non-tinted)."

response *Not accepted*

An unfit period of 2 months seems justified considering the demands of an ATCO workplace. If a shorter period is considered to be justified in an individual applicant, he/she could be assessed as fit earlier under B.001.

comment *57* comment by: *Eduardo Taboada*

ATCO.MED.B.070 Visual system d) & e)
AMC1 ATCO.MED.B.070 Visual system g) 2

There is an inconsistency between the rationale applied for initial and renewal or revalidation.
Initials should be assess as fitness if "AMC1 ATCO.MED.B.070 g) 2" is confirmed. Testing should be done after the applicant has successfully accomplished the initial training.
Commission Regulation (EU) 805/2011 does not require medical certification for the initial training, so a medical assessment after the initial training could take into account the experienced gained and capabilities achieved after the initial training.
Dr. Claudia Stern (advisor on ophthalmological requirements to *"Requirements for European Class 3 Medical Certification of Air Traffic Controllers Edition 2.0 - Eurocontrol")* was asked in relation to functional testing for an initial applicant. She said *"Work experience helps a lot in compensating problems. Simulation is not possible in the work environment for an initial, because he/she was not trained and he/she looks and thinks differently compared to an ATCO".*
So, after initial training, testing shall be possible as he/she looks and thinks as an ATCO.
Commission Regulation (EU) 805/2011 Annex II Part A:
"The initial training shall ensure that student air traffic controllers satisfy at least the objectives for basic and rating training,…,so that air traffic controllers are capable of handling air traffic in a safe, quick and efficient way."
In a similar situation, concerning medical requirements for pilots, EASA via the CRD to NPA 2008-17C, in response to a comment, said that "*initial class 1 certification is not possible because a pilot with monocular vision would need an OML limitation, but to get the licence needs to fly solo, which is incompatible*".
This rationale that precludes fitness for an initial applicant should not be applicable to ATCOs, as their training is different.
In addition, medical requirements do not take into account the big difference between TWR work and ACC work in relation to the visual performance needed and the different ratings on a licence. There should be two different medical

standards, one for ACC work and other for TWR work.
According to ICAO Doc 8984, Manual of Civil Aviation Medicine – Third Edition-2012:
"11.6.5 In general, monocularity does not pose a significant problem for air traffic controllers. For those working at electronic display terminals, care must be taken to ensure that fixed secondary displays such as map boards and weather radar screens are located comfortably inside the operator's monocular field of vision."

response *Not accepted*

A student ATCO needs a medical certificate (MED.A.005(a)) and it will be obtained before the start of the training.

comment *80* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.070

Comment:
MED.B.001 and consequently also AMC1 MED.B.070 have been considerably amended with a new structure to give more clarity to the requirements.
The text of AMC1 ATCO.MED.B.070 therefore should be amended to be consistent with Part-MED as far as possible.

Proposal:
Amend AMC1 ATCO.MED.B.070:
Use the text from AMC1 MED.B.070 as far as possible

response *Partially accepted*

A new structure would need proper consultation and will be included in a new rulemaking task.

comment *90* comment by: *ATCEUC- Air Traffic Controllers European Unions Coordination*

AMC1 ATCO.MED.B.070(d)(1)

Comment:

As currently proposed in the NPA, ATCOs during their career could become classed as unfit if their eyesight deteriorated as they got older. **ATCEUC**'s

proposal is to have different requirements for initial issue and for revalidations and renewals of the medical certificates.

AMC1 ATCO.MED.B.070(d) *new text*

(1) *Initial applicants with a refractive error exceeding +5.0 dioptres should be assessed as unfit.*

response *Not accepted*

Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.

comment *93* comment by: *Laurent BERTIN UNSA-ICNA*

(d) (1): only apply to **initial** applicants

response *Not accepted*

Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.

comment *98* comment by: *European Transport Workers Federation - ETF*

AMC1 ATCO.MED.B.070 (d)(1)
"(1) Initial applicants with a refractive error exceeding +5.0 dioptres should be assessed as unfit."

As currently proposed in the NPA, ATCOs during their career could become classified as unfit if their eyesight deteriorated as they got older.
ETF proposes to have different requirements for initial issue of the medical certificate and for revalidations and renewals.

response *Not accepted*

Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.

comment *101* comment by: *SINCTA - Portuguese Air Traffic Controllers' Union*

AMC1 ATCO.B.070(d)(1)

	As currently proposed in the NPA, ATCOs during their career could become classified as unfit if their eyesight deteriorated as they got older. **SINCTA's** proposal isto have different requirements for initial issue of the medical certificate and for revalidations/renewals. Proposed text: *Initial applicants with a refractive error exceeding +5.0 dioptres should be assessed as unfit.*
response	*Not accepted* Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.

comment	*108* comment by: *ICEATCA* (d)(1) ICEATCA proposes that this should regard initial applicants only.
response	*Not accepted* Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.

comment	*111* comment by: *comments provided on behalf of FIT/CISL italian trade union* Referring to the **AMC1 ATCO.MED.B.070(d)(1)** FIT/CISL, considering that as currently proposed in the NPA, ATCOs during their career could become classified as unfit if their eyesight deteriorated as they got older, proposes to have different requirements for initial issue of the medical certificate and for revalidations and renewals. The proposed change is as follows: "Initial applicants with a refractive error exceeding +5.0 dioptres should be assessed as unfit."
response	*Not accepted* Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for myopia, this is presently not considered for hypermetropia.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS p. 24

FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — GM1 ATCO.MED.B.070 Visual system

comment	*94* comment by: *Federazione ATM-PP* Federazione ATM-PP position on AMC1 ATCO.MED.B.070 (d)(1) is to put the limitof the refractive error exceeding +5.0 dioptres only for initial applicant, as follows: *Initial applicants with a refractive error exceeding +5.0 dioptres should be assessed as unfit.*
response	*Not accepted* Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for applicants for medical certificates with myopia, this is presently not considered for hypermetropia.

comment	*106* comment by: *USCA* **AMC1 ATCO.MED.B.070(d)(1)** As currently proposed in the NPA, ATCOs during their career could become classified as unfit if their eyesight deteriorated as they got older. USCA proposes to have different requirements for initial issue of the medical certificate and for revalidations and renewals Also, if there is to be a limit, USCA believes that 5 dioptres is unnecessarily restrictive, and thinks that the limit increase up to ten dioptries should be considered *"(1) Initial applicants with a refractive error exceeding ~~+5.0~~ 10 dioptres should be assessed as unfit."*
response	*Not accepted* Hypermetropia that needs to be corrected with more than + 5 dpt is not frequent but persons who do need a higher correction are at risk for complications. While the limits for refractive errors have been abolished for the revalidation of medical certificates for applicants with myopia, this is presently not considered for hypermetropia.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.075 Colour vision p. 24

comment	*27* comment by: *Aaron Curtis Prospect ATCOs' Branch UK* (b) The current colour plate testing has been well proven over time to provide a fit assessment. It is a robust measure and additional testing introduces new cost and time requirements, which are unnecessary. We propose to delete (b).
response	*Not accepted* It is agreed that the Ishihara test is a long-standing test with good results. However, it does not necessarily confirm that an applicant is a normal trichromate.

comment	*40* comment by: *NATS National Air Traffic Services Limited* AMC1 ATCO.MED.B.075 Pseudoisochromatic plate testing is currently considered satisfactory for initially class 1 and 3 applicants. There is a very low risk that applicants can cheat these tests but to our knowledge there has never been an aviation accident or incident caused by deficient colour blindness in an ATCO. If this test is no longer considered sufficient then this will incur a significant cost as all initial class 3 applicants will have to undergo advanced colour testing. In the UK this is carried out by means of a CAD test at the CAA at a cost of £125. This has major financial implications for NATS and will not benefit safety Suggest remove the statement: **'b) Pseudoisochromatic plate testing alone is not sufficient.'** And consequently remove paragraph designator: **'(a)'**
response	*Not accepted* The text was based on the EUROCONTROL Guidelines: Requirement: 15.1 (a) An applicant shall be normal trichromate. Means of compliance: 15.1 Colour vision should be assessed using means able to demonstrate normal trichromacy. Pseudoisochromatic plate testing alone is not sufficient. The AMC will not be changed at this stage, but could be reviewed in a new rulemaking task.

comment	*91* comment by: *ATCEUC- Air Traffic Controllers European Unions Coordination* **AMC1 ATCO.MED.B.075(b)**

Comment:

Regarding colour vision more tests are required apart from the colour tablets. Those are not required for pilots. Why should ATCOs have more restrictive conditions? **ATCEUC** proposes to delete paragraph (b).

AMC1 ATCO.MED.B.075 *new text*

(b) ~~*Pseudoisochromatic plate testing alone is not sufficient.*~~

response *Not accepted*

There were many comments during the drafting phase of the NPA, stating that ATCOs are not pilots.
This rule is based on the EUROCONTROL Guidelines and will be kept in the AMC. It may be reviewed, again with specialists in the field, in a new rulemaking task.

comment *92* comment by: *Laurent BERTIN UNSA-ICNA*

(b): to be removed.not required for pilots, why for ATCos?

response *Not accepted*

This rule is based on the EUROCONTROL Guidelines and will be kept in the AMC. It may be reviewed, again with specialists in the field, in a new rulemaking task.

comment *96* comment by: *Federazione ATM-PP*

Federazione ATM-PP position on AMC1 ATCO.MED.B.075 (b) is to delete the point because we think the pseudoisochromatic plate is sufficient to assess normal trichromacy like it is for pilots

response *Not accepted*

This rule is based on the EUROCONTROL Guidelines and will be kept in the AMC. It may be reviewed, again with specialists in the field, in a new rulemaking task.

comment *99* comment by: *European Transport Workers Federation - ETF*

AMC1 ATCO.MED.B.075 (b)
Deletion

Regarding colour vision, ATCOs are presented with more tests apart from the

	colour tablets. This is not required for pilots and no reasoning was presented to justify this change. ETF proposes to delete paragraph (b).
response	*Not accepted* This rule is based on the EUROCONTROL Guidelines and will be kept in the AMC. It may be reviewed, again with specialists in the field, in a new rulemaking task.

comment	*102* comment by: *SINCTA - Portuguese Air Traffic Controllers' Union* AMC1 ATCO.MED.B.075(b) Regarding colour vision, ATCOs are presented with more tests apart from the colour tablets. This is not required for pilots and no reasoning was presented to justify this change. **SINCTA** proposes to delete paragraph (b). Proposed text: ~~*Pseudoisochromatic plate testing alone is not sufficient.*~~
response	*Not accepted* This rule is based on the EUROCONTROL Guidelines and will be kept in the AMC. It may be reviewed, again with specialists in the field, in a new rulemaking task.

comment	*107* comment by: *USCA* **– AMC1 ATCO.MED.B.075(b)** Regarding colour vision, ATCOs are presented with more tests apart from the colour tablets. This is not required for pilots and no reasoning was presented to justify this change. USCA proposes to delete paragraph (b). ~~*"(b) Pseudoisochromatic plate testing alone is not sufficient."*~~
response	*Not accepted* This rule is based on the EUROCONTROL Guidelines and will be kept in the AMC. It may be reviewed, again with specialists in the field, in a new rulemaking task.

comment	*112* comment by: *comments provided on behalf of FIT/CISL italian trade union* In reference to the **AMC1 ATCO.MED.B.075(b)**, FIT/CISL proposes to delete the paragraph because, regarding colour vision ATCOs are presented with more tests apart from the colour tablets and this is not required for pilots and no reasoning was presented to justify this change. So we propose as follows:

	"~~Pseudoisochromatic plate testing alone is not sufficient.~~"
response	*Not accepted* This rule is based on the EUROCONTROL Guidelines and will be kept in the AMC. It may be reviewed, again with specialists in the field, in a new rulemaking task.

comment	*128* comment by: *Federal Office of Civil Aviation FOCA* Article: AMC1 ATCO.MED.B.075 b) Comment / Issue / Suggestion: Pseudoisochromatic plate testing alone is only sufficient if the applicant can indentify without error plates 1 to 15 of the 24-table-Ishihara edition presented in random sequence ~~not sufficient~~. Justification: anomaloscopy as the only accepted way to evaluate normal color vision function is too restrictive considering the fact that anomaloscopes are available only in very destictive medical institutions.
response	*Not accepted* This rule is based on the EUROCONTROL Guidelines and will be kept in the AMC. It may be reviewed, again with specialists in the field, in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.080 Otorhinolaryngology p. 24-25

comment	*18* comment by: *Direction de la sécurité de l'aviation civile (DSAC)* GM1 ATCO.MED.B.080 Otorhinolaryngology HEARING (a) Comment add : to have the same standards in Europe and for a reproducible Hearing test Proposal : (a) (a) Speech discrimination test: discriminating speech against other noise including other sources of verbal communication and ambient noise in the working environment, **under white noise of 65 dB into headset** but not against engine noise. (b) **Criteria speech discrimination test : understand 100% of words at any level of audition.**

response | *Not accepted*

The additions were not included because the scientific background was unclear. The issue of undergoing the test under white noise will, however, be further evaluated with ENT specialists and may be added in a future rulemaking task.
It may be impossible to understand 100 % of the words, the normal range should be understood. The outcome of the test also depends on age.

comment | *81* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.080

Comment:
AMC1 MED.B.080 has been amended to give more clarity to the requirements. However, some paragraphs in AMC1 ATCO.MED.B.080 have a better wording. For those conditions mentioned for both ATCOs and pilots a consolidated and common version for AMC1 MED.B.080 and AMC 1 ATCO.MED.B.080 should be developed.

Proposal:
Develop a common version for AMC1 MED.B.065 and AMC 1 ATCO.MED.B.065.

response | *Partially accepted*

The intent of the comment is accepted, but will be dealt with in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — GM1 ATCO.MED.B.080 Otorhinolaryngology — HEARING p. 25

comment | *82* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: GM1 ATCO.MED.B.080

Comment:
(b) will need an amendment if the hearing threshold for initial examinations

will be the same as for revalidation/renewal examinations. The last sentence then will become irrelevant and should be deleted.

Proposal:
Amend GM1 ATCO.MED.B.080:
(b) 'Functional hearing test: the objective of this test is to evaluate the controller's ability to hear the full range of communications that occur in an operational environment and not just through a headset or speaker.'

response *Accepted*

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.085 Dermatology p. 25

comment *83* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.085

Comment:
(b) needs an editorial change from 'radiation' to 'radiant' as a variant of treatment.
(c) is superfluous as this is covered by the general requirement in ATCO.MED.B.005, an can be deleted
AMC1 MED.B.085 has another (c) which should be included for consistency.

Proposal:
Amend AMC1 ATCO.MED.B.085:
(c) 'In cases where a dermatological condition is associated with a systemic illness, full consideration should be given to the underlying illness before a fit assessment may be considered.'

response *Partially accepted*

(b): accepted.
(c): not deleted, it is a bit more specific than B.005.
new (c): accepted and has been added as (d) due to not deleting the existing

(c).

AMC/GM TO PART-ATCO.MED — SUBPART B — SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — SECTION 2 SPECIFIC REQUIREMENTS FOR CLASS 3 MEDICAL CERTIFICATES — AMC1 ATCO.MED.B.090 Oncology p. 26

comment *56* comment by: *UK CAA*

Page No: 26
Paragraph No: AMC1 ATCO.MED.B.090 (a)(2)
Comment: Amend paragraph (a)(2) to allow the need of ongoing adjuvant treatment.
Justification: Adjuvant treatment, e.g. hormonal therapy is common now in the treatment of many malignancies.
Proposed Text: Amend paragraph (a)(2) to read:
AMC1 ATCO.MED.B.090 Oncology
"(2) time appropriate to the type of tumour has elapsed since the end of **primary** treatment;"

response *Accepted*

comment *84* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.B.090 (a)

Comment:
AMC1 MED.B.090 (a) has been amended to give more clarity to the requirements, especially permitting a fit assessment whilst on certain medication without adverse effects on flight safety.
The text of AMC1 ATCO.MED.B.090 should be amended to be consistent with Part-MED.

Proposal:
Amend AMC1 ATCO.MED.B.090:
'(a) Applicants who have been diagnosed with a malignant disease may be assessed as fit provided that:
(1) after treatment, there is no evidence of residual malignant disease likely to adversely affect flight safety;
(2) time, appropriate to the type of tumour and therapy, has elapsed;
(3) the risk of incapacitation from a recurrence or metastasis is sufficiently low;
(4) there is no evidence of short or long-term sequelae from

treatment that may adversely affect flight safety. Applicants receiving on-going chemotherapy or radiation treatment should be assessed as unfit. Special attention should be paid to applicants who have received anthracycline chemotherapy;
(5) satisfactory oncology follow-up reports are provided to the licensing authority.'

response *Partially accepted*

The paragraph has been amended also considering the changes made to Part-MED. However, subparagraph (a)(1) has not been included because it was agreed that certain medication could be allowed for a fit assessment but (1) refers explicitly to 'after treatment'. The same argument is valid for (a)(2) where 'primary therapy has been added to indicate that ongoing therapy may be acceptable'.

AMC/GM TO PART-ATCO.MED — SUBPART C — AERO-MEDICAL EXAMINERS (AMEs) — AMC1 ATCO.MED.C.010 Requirements for the issue of an AME certificate — REQUIREMENTS FOR THE BASIC AND ADVANCED TRAINING COURSES p. 27

comment *41* comment by: *ESAM*

Attachment #2

SUBPART C
Aero-medical examiners (AMEs)
AMC1 MED.D.001 Privileges
ROLE OF THE AME
The role of the AME is to optimise flight safety through managing aero-medical risk:
(a) In order to do this, the AME shall undertake medical examinations and assess the applicant's medical fitness to exercise the privileges of his/her license.
(b) The aero-medical decision shall consider the risks of all kind of incapacitation or reduced function which may affect flight safety.
AMC1 MED.D.010(b) Requirements for the issue of an AME certificate
BASIC TRAINING COURSE IN AVIATION MEDICINE – GENERAL
(a) Basic training course for AMEs
The basic training course for AMEs should consist of 60 hours theoretical and practical training, including specific examination techniques.
(b) The learning objectives to acquire the necessary competencies in the basic

training course should include theoretical knowledge, risk management and decision-making principles, and should cover at least the subjects below. Demonstrations and practical skills should also be included, where appropriate.
(1) Introduction to aviation medicine;
(2) Basic aeronautical knowledge;
(3) Aviation physiology;
(4) Cardiovascular system;
(5) Respiratory system;
(6) Digestive system;
(7) Metabolic and endocrine systems;
(8) Haematology;
(9) Genito-urinary system;
(10) Obstetrics and gynaecology;
(11) Musculoskeletal system;
(12) Psychiatry;
(13) Psychology;
(14) Neurology;
(15) Visual system and colour vision;
(16) Otorhinolaryngology;
(17) Oncology;
(18) Incidents and accidents, escape and survival;
(19) Medication and flying;
(20) Legislation, rules and regulations;
(21) Cabin crew working environment;
(22) In-flight environment;
(23) Space medicine.

GM1 MED.D.010(b) Requirements for the issue of an AME certificate
BASIC TRAINING COURSE IN AVIATION MEDICINE – LEARNING OBJECTIVES (TOPICS AND DURATION) TO ACQUIRE THE NECESSARY COMPETENCIES

(a) Basic Training Course in Aviation Medicine	**60 hours**
(1) Introduction to Aviation Medicine	**2 hours**
(i) History of aviation medicine	
(ii) Specific aspects of civil aviation medicine	
(iii) Different types of recreational flying	
(iv) AME and pilots relationship	
(v) Responsibility of aero-medical examiner in aviation safety	
(2) Basic aeronautical knowledge	**2 hours**
(i) Flight mechanisms	
(ii) Man-machine interface, informational processing	
(iii) Propulsion	
(iv) Conventional instruments, 'glass cockpit'	
(v) Recreational flying	
(vi) Simulator/aircraft experience	
(3) Aviation physiology **(i)** Atmosphere	**9 hours**
(A) Functional limits for humans in flight	

(B) Divisions of the atmosphere	
(C) Gas laws - physiological significance	
(D) Physiological effects of decompression	
(ii) Respiration	
(A) Blood gas exchange	
(B) Oxygen saturation	
(iii) Hypoxia signs and symptoms	
(A) Average time of useful consciousness (TUC)	
(B) Hyperventilation signs and symptoms	
(C) Barotrauma	
(D) Decompression sickness	
(iv) Acceleration	
(A) G-Vector orientation	
(B) Effects and limits of G-load	
(C) Methods to increase Gz-tolerance	
(D) Positive/negative acceleration	
(E) Acceleration and the vestibular system	
(v) Visual disorientation	
(A) Sloping cloud deck	
(B) Ground lights and stars confusion	
(C) Visual autokinesis	
(vi) Vestibular disorientation	
(A) Anatomy of the inner ear	
(B) Function of the semicircular canals	
(C) Function of the otolith organs	
(D) The oculogyral and coriolis illusion	
(E) 'Leans'	
(F) Forward acceleration illusion of 'nose up'	
(G) Deceleration illusion of 'nose down'	
(H) Motion sickness - causes and management	
(vii) Noise and vibration	
(A) Preventive measures	
(4) Cardiovascular system	**3 hours**
(i) Relation to aviation; risk of incapacitation	
(ii) Examination procedures: ECG, laboratory testing and other special examinations	
(iii) Cardiovascular diseases:	
(A) Hypertension, treatment and assessment	
(B) Ischaemic heart disease	
(C) ECG findings	

(D) Assessment of satisfactory recovery from myocardial infarction, interventional procedures and surgery	
(E) Cardiomyopathies; pericarditis; rheumatic heart disease; valvular diseases	
(F) Rhythm and conduction disturbances, treatment and assessment	
(G) Congenital heart disease: surgical treatment, assessment	
(H) Cardiovascular syncope: single and repeated episodes	
Topics (5) to (11) inclusive and (17)	**10 hours**
(5) Respiratory system	
(i) Relation to aviation, risk of incapacitation	
(ii) Examination procedures: spirometry, peak flow, x-ray, other examinations	
(iii) Pulmonary diseases: asthma, chronic obstructive pulmonary diseases	
(iv) Infections, tuberculosis	
(v) Bullae, pneumothorax	
(vi) Obstructive sleep apnoea	
(vii) Treatment and assessment	
(6) Digestive system	
(i) Relation to aviation, risk of incapacitation	
(ii) Examination of the system	
(iii) Gastro-intestinal disorders: gastritis, ulcer disease	
(iv) Biliary tract disorders	
(v) Hepatitis and pancreatitis	
(vi) Inflammatory bowel disease, irritable colon/irritable bowel disease	
(vii) Herniae	
(viii) Treatment and assessment including post abdominal surgery	
(7) Metabolic and endocrine systems	
(i) Relation to aviation, risk of incapacitation	
(ii) Endocrine disorders	
(iii) Diabetes mellitus type I & II	
(A) Diagnostic tests and criteria	
(B) Anti-diabetic therapy	
(C) Operational aspects in aviation	
(D) Satisfactory control criteria for aviation	
(iv) Hyper/hypothyroidism	
(v) Pituitary and adrenal glands disorders	
(vi) Treatment and assessment	
(8) Haematology	
(i) Relation to aviation, risk of incapacitation	

(ii) Blood donation aspects	
(iii) Erythrocytosis; anaemias; leukaemias; lymphomas	
(iv) Sickle cell disorders	
(v) Platelet disorders	
(vi) Haemoglobinopathies; geographical distribution; classification	
(vii) Treatment and assessment	
(9) Genito-urinary system	
(i) Relation to aviation, risk of incapacitation	
(ii) Action to be taken after discovery of abnormalities in routine dipstick urinalysis e.g haematuria; albuminuria	
(iii) Urinary system disorders:	
(A) Nephritis; pyelonephritis; obstructive uropathies	
(B) Tuberculosis	
(C) Lithiasis: single episode; recurrence	
(D) Nephrectomy, transplantation, other treatment and assessment	
(10) Obstetrics and gynaecology	
(i) Relation to aviation, risk of incapacitation	
(ii) Pregnancy and aviation	
(iii) Disorders, treatment and assessment	
(11) Musculoskeletal system	
(i) Vertebral column diseases	
(ii) Arthropathies and arthroprosthesis	
(iii) Disabled pilots	
(iv) Treatment of musculoskeletal system, assessment for flying	
(12) Psychiatry	**2 hours**
(i) Relation to aviation, risk of incapacitation	
(ii) Psychiatric examination	
(iii) Psychiatric disorders: neurosis; personality disorders; psychosis; organic mental illness	
(iv) Alcohol and other psychoactive substance use	
(v) Treatment, rehabilitation and assessment	
(13) Psychology	**2 hours**
(i) Introduction to psychology in aviation as a supplement to neuropsychiatric assessment	
(ii) Methods of psychological examination	
(iii) Behaviour and personality	
(iv) Workload management and situational awareness	
(v) Flight motivation and suitability	
(vi) Group social factors	
(vii) Psychological stress, stress coping, fatigue	

(viii) Psychomotor functions and age	
(ix) Mental fitness and training	
(14) Neurology	**3 hours**
(i) Relation to aviation, risk of incapacitation	
(ii) Examination procedures	
(iii) Neurological disorders	
(A) Seizures – assessment of single episode	
(B) Epilepsy	
(C) Multiple sclerosis	
(D) Head trauma	
(E) Post-traumatic states	
(F) Vascular diseases	
(G) Tumours	
(H) Disturbance of consciousness – assessment of single and repeated episodes	
(iv) Degenerative diseases	
(v) Sleep disorders	
(vi) Treatment and assessment	
(15) Visual system and colour vision	**4 hours**
(i) Anatomy of the eye	
(ii) Relation to aviation duties	
(iii) Examination techniques	
(A) Visual acuity assessment	
(B) Visual aids	
(C) Visual fields – acceptable limits for certification	
(D) Ocular muscle balance	
(E) Assessment of pathological eye conditions	
(F) Glaucoma	
(iv) Monocularity and medical flight tests	
(v) Colour vision	
(vi) Methods of testing: pseudoisochromatic plates, lantern tests, anomaloscopy (CAD test)	
(vii) Importance of standardisation of tests and of test protocols	
(viii) Assessment after eye surgery	
(16) Otorhinolaryngology	**3 hours**
(i) Anatomy of the systems	
(ii) Clinical examination in ORL	
(iii) Functional hearing tests	
(iv) Vestibular system; vertigo, examination techniques	

(v) Assessment after ENT surgery	
(vi) Barotrauma ears and sinuses	
(vii) Aeronautical ENT pathology	
(viii) ENT requirements	
(17) Oncology	
(i) Relation to aviation, risk of metastasis and incapacitation	
(ii) Risk management	
(iii) Different methods of treatment and assessment	
(18) Incidents and accidents, escape and survival	**1 hour**
(i) Accident statistics	
(ii) Injuries	
(iii) Aviation pathology, postmortem examination, identification	
(iv) Aircraft evacuation	
(A) Fire	
(B) Ditching	
(C) By parachute	
(19) Medication and flying	**2 hours**
(i) Hazards of medications	
(ii) Common side effects; prescription medications; over-the-counter medications; herbal medications; 'alternative' therapies	
(iii) Medication for sleep disturbance	
(20) Legislation, rules and regulations	**4 hours**
(i) ICAO Standards and Recommended Practices, European provisions (Implementing Rules, AMCs and GM)	
(ii) Incapacitation: acceptable aeromedical risk of incapacitation; types of incapacitation; operational aspects	
(iii) Basic principles in assessment of fitness for aviation	
(iv) Operational and environmental conditions	
(v) Use of medical literature in assessing medical fitness; differences between scientific study populations and licensed populations	
(vi) Flexibility	
(vii) Annex 1 to the Chicago Convention, paragraph 1.2.4.9	
(viii) Accredited Medical Conclusion; consideration of knowledge, skill and experience	
(ix) Trained versus untrained crews; incapacitation training	
(x) Medical flight tests	
(21) Cabin crew working environment	**1 hour**
(i) Cabin environment, workload, duty and rest time, fatigue risk management	
(ii) Cabin crew safety duties and associated training	

(iii) Types of aircraft and types of operations	
(iv) Single-cabin crew and multi-cabin crew operations	
(22) In-flight environment (i) Hygiene aboard aircraft: water supply, oxygen supply, disposal of waste, cleaning, disinfection and disinsection (ii) Catering (iii) Crew nutrition (iv) Aircraft and transmission of diseases	**1 hour**
(23) Space medicine	**1 hour**
(i) Microgravity and metabolism, life sciences	
(24) Practical demonstrations of basic aeronautical competence	**8 hours**
(25) Concluding items	**2 hours**
(i) Final examination	
(ii) De-briefing and critique	

AMC1 MED.D.015 Requirements for the extension of privileges
ADVANCED TRAINING COURSE IN AVIATION MEDICINE – GENERAL
(a) Advanced training course for AMEs cl3
The advanced training course for AMEs cl 3 should consist of another 60 hours of theoretical and practical training, including specific examination techniques.
(b) The learning objectives to acquire the necessary competencies in the advanced training course should include theoretical knowledge, risk management and decision-making, and should cover at least the subjects below. Demonstrations and practical skills should also be included, where appropriate.
(1) ATCO working environment;
(2) Physiology in the ATCO environment;
(3) Clinical medicine;
(4) Cardiovascular system;
(5) Neurology/psychiatry;
(6) Visual system and colour vision;
(7) Otorhinolaryngology;
(8) Human factors in aviation;
(9) Incidents and accidents, posttraumatic stress syndrom;
(10) Occupational medicine related to ATCO working environment;
(c) Practical training in an AeMC should be under the guidance and supervision of the head of the AeMC.
(d) After the successful completion of the practical training, a report of demonstrated competency should be issued.

GM1 MED.D.015(b) Requirements for the extension of privileges
ADVANCED TRAINING COURSE cl 3 IN AVIATION MEDICINE – LEARNING OBJECTIVES (TOPICS AND DURATION) TO ACQUIRE THE NECESSARY COMPETENCIES

(a) Advanced Training Course in Aviation Medicine	60 hours
(1) ATCO working environment	6 hours
(i) Flow control	

(ii) en route air traffic control centers	
(iii) approach air traffic control	
(iv) tower ATC	
(v) Air traffic control organisation	
(vi) Single-ATC/multi-ATC positions	
(vii) Exposure to environmental factors	
(2) physiology in the ATCO environment	4 hours
(i) Brief review of basics in physiology (shiftwork, sedentary work, stress and boredom factors, isolation from natural environment)	
(ii) Simulator training of ATCO's	
(3) Clinical medicine	5 hours
(i) Complete physical examination	
(ii) Review of basics with relationship to ATC operations	
(iii) Class 3 requirements (differences with cl 1)	
(iv) Clinical cases, including statistical data for reasons of ATCO morbidity and unfitness	
(4) Cardiovascular system	4 hours
(i) Cardiovascular examination and review of basics	
(ii) Class 3 requirements	
(iii) Diagnostic steps in cardiovascular system	
(iv) Clinical cases	
(5) Neurology/psychiatry	5 hours
(i) Brief review of basics (neurological and psychiatric examination)	
(ii) Alcohol and other psychoactive substance use	
(iii) Class 3 requirements including psychology (stress , burn-out)	
(iv) Clinical cases	
(6) Visual system and colour vision	5 hours
(i) Brief review of basics (visual acuity, refraction, colour vision, visual fields, night vision, stereopsis, monocularity)	
(ii) Class 3 visual requirements	
(iii) Implications of refractive and other eye surgery	
(iv) Clinical cases	
(7) Otorhinolaryngology	4 hours
(i) Brief review of basics (functional hearing tests)	
(ii) The auditive environment in ATC work	
(iii) Air conditioning effects	

(iv) Class 3 hearing requirements	
(v) Clinical cases	
(8) Human factors in aviation, including 8 hours demonstration and practical experience	19 hours
(i) shiftwork	
(A) working **time limitations**	
(B) Sleep disturbance	
(C) Extended/expanded sectors	
(D) Shift rostering effects	
(ii) Human information processing and system design	
(A) Air Traffic Control management systems; displays	
(B) Adaptation to the various displays	
(C) Sectors **Co-ordination, Team Resource Management (CRM),**	
(D) Practical simulator training	
(E) Ergonomics	
(iii) AICO commonality	
(A) Working with several ratings and different tasks	
(iv) Human factors in aircraft incidents and accidents	
(v) Flight safety strategies in commercial aviation	
(vi) Fear and refusal of controlling	
(vii) Psychological selection criteria	
(viii) Operational requirements (working time limitation, fatigue risk management, etc.)	
(10) Incidents and accidents	2 hours
(i) Accident statistics	
(ii) Types of consequences	
(iii) Legal investigations after accidents or incidents	
(iv) Posttraumatic stress disorder	
(11) Occupational medicine in the ATC environment	2 hours
(i) Shift rosters	
(ii) lighting conditions	
(iii) auditive environment	
(iv) airconditioning (temp, humidity, drafts)	
(v) furniture	
(vi) different screens	
(vii) psychological factors	
(viii) workplace hygiene	
(12) Visit to OPS room and tower (13) Concluding items	2 hours

	2 hours
(i) Final examination	
(ii) De-briefing and critique	

AMC1 MED.D.020 Training courses in aviation medicine
GENERAL
(a) Principals of training:
To acquire knowledge and skills for the aero-medical examination and assessment, the training should be:
(1) based on regulations;
(2) based on general clinical skills and knowledge necessary to conduct relevant examinations for the different medical certificates;
(3) based on knowledge of the different risk assessments required for various types of medical certification;
(4) based on an understanding of the limits of the decision-making competences of an AME in assessing safety-critical medical conditions for when to defer and when to deny;
(5) based on knowledge of aviation and ATC environment (OPS room and tower, simulation exercises); and
(6) exemplified by clinical cases and practical demonstrations.
(b) Training outcomes:
The trainees should demonstrate a thorough understanding of:
(1) the aero-medical examination and assessment process:
(i) principles, requirements and methods;
(ii) ability to investigate all clinical aspects that present aero-medical risks, the reasonable use of additional investigations;
(iii) the role in the assessment of the ability of the ATCO to safely perform his/her duties in special cases, such as the medical OPS room or tower test;
(iv) aero-medical decision-making based on risk management;
(v) medical confidentiality;
(vi) correct use of appropriate forms, and the reporting and storing of information.
(2) international and national regulations;
(i) ICAO Annex 1;
(ii) European regulations regarding medical certification, including the roles of AMEs, AeMCs and competent authorities;
(iii) responsibility and management of aviation personnel with a decrease in medical fitness (see MED.A.020);
(3) the conditions under which the holders of medical report forms, and licenses and ratings carry out their duties; and
(4) principles of preventive medicine, including aero-medical advice in order to help prevent future limitations;

AMC1 MED.D.030(b) Validity of AME certificates
REFRESHER TRAINING IN AVIATION MEDICINE – GENERAL
(a) It is the responsibility of the AME to continuously maintain his/her competence. The choice of activities should be based on the individual training needs of the AME.
(b) During the period of authorisation, an AME should attend 20 hours of refresher training to maintain his/her competencies both from a scientific and regulations perspective.
(c) A proportionate number of refresher training hours should be provided by, or conducted under the direct supervision of, the competent authority or the Medical Assessor.
(d) Attendance at scientific meetings, congresses and OPS room/tower experience may be credited by the competent authority for a specified number

of hours against the training obligations of the AME, provided the competent authority has assessed it in advance as being relevant for crediting purposes.
GM1 MED.D.030(b) Validity of AME certificates
REFRESHER TRAINING IN AVIATION MEDICINE - LEARNING OBJECTIVES (TOPICS AND DURATION) TO MAINTAIN THE NECESSARY COMPETENCIES
Scientific meetings, congresses or flight deck experience that may be credited by the competent authority:

(a) International Academy of Aviation and Space Medicine Annual Congresses (ICASM)	4 days – 10 hours credit
(b) European Conference of Aerospace Medicine (ECAM)	4 days – 10 hours credit
(c) Aerospace Medical Association Annual Scientific Meetings (AsMA)	4 days – 10 hours credit
(d) Other scientific meetings (A minimum of 6 hours to be under the direct supervision of the medical assessor of the competent authority)	4 days – 10 hours credit

response *Partially accepted*

The AME training courses were amended where it could be done by adjustments. A full set of new AMC/GM would need proper consultation and this will be done in a new rulemaking task.

comment *85* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.C.001
(as this number does not exist, the comment is made on AMC1 ATCO.MED.010)

Comment:
A new AMC1 MED.D.001 has been developed to give more clarity to the role of the AME. Several limitation codes are common to Part-MED for aircrew and ATCO.MED and need to have the same explanation.
A new AMC1 ATCO.MED.C.001 should be introduced to give consistency with Part-MED.

Proposal:
Add a new AMC1 ATCO.MED.C.001:
ROLE OF THE AME
The role of the AME is to optimise flight safety through managing aero-medical risk:
(a) In order to do this, the AME shall undertake medical examinations and assess the applicant's medical fitness to exercise the privileges of his/her license.
(b) The aero-medical decision shall consider the risks of all kind of

incapacitation or reduced function which may affect flight safety.

response *Partially accepted*

The AME training courses were amended where it could be done by adjustments. A full set of new AMC/GM would need proper consultation and this will be done in a new rulemaking task.

comment *86* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.C.010

Comment:
AMC1 MED.D.010(b), GM MED.D.010(b), AMC1 MED.D.015, GM MED.D.015(b), and AMC1 MED.D.020, have been considerably amended to introduce the concept of learning objectives to the AME training. As this training is also applicable for AMEs examining ATCOs, AMCs and GM to ATCO.MED.C should be amended to be consistent with Part-MED.

Proposal:
Add new AMCs and GM to ATCO.MED.C.010 derived from AMCs and GM to MED.D.010 and MED.D.015.

response *Partially accepted*

The AME training courses were amended where it could be done by adjustments. A full set of new AMC/GM would need proper consultation and this will be done in a new rulemaking task.

comment *87* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.C.015
(as this AMC does not exist, the comment is made to AMC1 ATCO.MED.010)

Comment:

A new AMC1 MED.D.020 has been added to clarify the content of AME training courses. As the requirements for training courses are also applicable for AMEs examining ATCOs, a new AMC1 to ATCO.MED.C.015 should be added to be consistent with Part-MED.
The numbering should be changed to AMC1 ATCO.MED.C.020 to be consistent with Part-MED.

Proposal:
Add a new AMC1 to ATCO.MED.C from AMC1 MED.D.020.

response *Partially accepted*

The AME training courses were amended where it could be done by adjustments. A full set of new AMC/GM would need proper consultation and will be done in a new rulemaking task.

comment *115* comment by: *EUROCONTROL*

Criteria for certification of AME training institutions should be established

response *Noted*

The competent authority (Medical Assessor) will evaluate the course and approve it. The training provider does not have to comply with the Organisation Requirements as this is not foreseen in the Basic Regulation. Nevertheless, some rules or AMC material could be added in a new rulemaking task should stakeholders request more guidance.

comment *119* comment by: *Moldavian Society of Aviation Medicine*

Please consider the following entry for Subpart C Aero-medical examiners (AMEs) with regards to AMEs training in aviation medicine. I suggest to include the training for AMEs for all 3 Classes of medical certification. For Class 3 (ATCOs medical certification) AME shall fulfill basic and advanced training that will include along the other issues concerning the flight crew members' medical certification also the issues related to ATCOs' working environment, human factors, etc.
I would like to propose to introduce the same requirements for the training of AMEs for the future updates of Subpart D of AMC and GM to Part MED.
Please find below the proposal:

SUBPART C
Aero-medical examiners (AMEs)

AMC1 MED.C.001 Privileges
ROLE OF THE AME

The role of the AME is to optimise flight safety through managing aero-medical risk:
(a) In order to do this, the AME shall undertake medical examinations and assess the applicant's medical fitness to exercise the privileges of his/her license.
(b) The aero-medical decision shall consider the risks of all kind of incapacitation or reduced function which may affect flight safety.

AMC1 MED.C.010(b) Requirements for the issue of an AME certificate

BASIC TRAINING COURSE IN AVIATION MEDICINE – GENERAL

(a) Basic training course for AMEs

The basic training course for AMEs should consist of 60 hours theoretical and practical training, including specific examination techniques.

(b) The learning objectives to acquire the necessary competencies in the basic training course should include theoretical knowledge, risk management and decision-making principles, and should cover at least the subjects below. Demonstrations and practical skills should also be included, where appropriate.

Introduction to aviation medicine;
Basic aeronautical knowledge;
Aviation physiology;
Cardiovascular system;
Respiratory system;
Digestive system;
Metabolic and endocrine systems;
Haematology;
Genito-urinary system;
Obstetrics and gynaecology;
Musculoskeletal system;
Psychiatry;
Psychology;
Neurology;
Visual system and colour vision;
Otorhinolaryngology;
Oncology;
Incidents and accidents, escape and survival;
Medication and flying;
Legislation, rules and regulations;
Cabin crew working environment;
In-flight environment;
Space medicine.

GM1 MED.C.010(b) Requirements for the issue of an AME certificate

BASIC TRAINING COURSE IN AVIATION MEDICINE – LEARNING OBJECTIVES (TOPICS AND DURATION) TO ACQUIRE THE NECESSARY COMPETENCIES

(a) Basic Training Course in Aviation Medicine	60 hours
(1) Introduction to Aviation Medicine	2 hours
History of aviation medicine	
Specific aspects of civil aviation medicine	
Different types of recreational flying	
AME and pilots relationship	
Responsibility of aero-medical examiner in aviation safety	
(2) Basic aeronautical knowledge	2 hours

Flight mechanisms	
Man-machine interface, informational processing	
Propulsion	
Conventional instruments, 'glass cockpit'	
Recreational flying	
Simulator/aircraft experience	
(3) Aviation physiology Atmosphere	9 hours
Functional limits for humans in flight	
Divisions of the atmosphere	
Gas laws - physiological significance	
Physiological effects of decompression	
Respiration	
Blood gas exchange	
Oxygen saturation	
Hypoxia signs and symptoms	
Average time of useful consciousness (TUC)	
Hyperventilation signs and symptoms	
Barotrauma	
Decompression sickness	
Acceleration	
G-Vector orientation	
Effects and limits of G-load	
Methods to increase Gz-tolerance	
Positive/negative acceleration	
Acceleration and the vestibular system	
Visual disorientation	
Sloping cloud deck	
Ground lights and stars confusion	
Visual autokinesis	
Vestibular disorientation	
Anatomy of the inner ear	
Function of the semicircular canals	
Function of the otolith organs	
The oculogyral and coriolis illusion	
'Leans'	
Forward acceleration illusion of 'nose up'	
Deceleration illusion of 'nose down'	
Motion sickness - causes and management	
Noise and vibration	
Preventive measures	

(4) Cardiovascular system	3 hours
Relation to aviation; risk of incapacitation	
Examination procedures: ECG, laboratory testing and other special examinations	
Cardiovascular diseases:	
Hypertension, treatment and assessment	
Ischaemic heart disease	
ECG findings	
Assessment of satisfactory recovery from myocardial infarction, interventional procedures and surgery	
Cardiomyopathies; pericarditis; rheumatic heart disease; valvular diseases	
Rhythm and conduction disturbances, treatment and assessment	
Congenital heart disease: surgical treatment, assessment	
Cardiovascular syncope: single and repeated episodes	
Topics (5) to (11) inclusive and (17)	10 hours
(5) Respiratory system	
Relation to aviation, risk of incapacitation	
Examination procedures: spirometry, peak flow, x-ray, other examinations	
Pulmonary diseases: asthma, chronic obstructive pulmonary diseases	
Infections, tuberculosis	
Bullae, pneumothorax	
Obstructive sleep apnoea	
Treatment and assessment	
(6) Digestive system	
Relation to aviation, risk of incapacitation	
Examination of the system	
Gastro-intestinal disorders: gastritis, ulcer disease	
Biliary tract disorders	
Hepatitis and pancreatitis	
Inflammatory bowel disease, irritable colon/irritable bowel disease	
Herniae	
Treatment and assessment including post abdominal surgery	
(7) Metabolic and endocrine systems	
Relation to aviation, risk of incapacitation	
Endocrine disorders	
Diabetes mellitus type I & II	
Diagnostic tests and criteria	
Anti-diabetic therapy	

Operational aspects in aviation	
Satisfactory control criteria for aviation	
Hyper/hypothyroidism	
Pituitary and adrenal glands disorders	
Treatment and assessment	
(8) Haematology	
Relation to aviation, risk of incapacitation	
Blood donation aspects	
Erythrocytosis; anaemias; leukaemias; lymphomas	
Sickle cell disorders	
Platelet disorders	
Haemoglobinopathies; geographical distribution; classification	
Treatment and assessment	
(9) Genito-urinary system	
Relation to aviation, risk of incapacitation	
Action to be taken after discovery of abnormalities in routine dipstick urinalysis e.g haematuria; albuminuria	
Urinary system disorders:	
Nephritis; pyelonephritis; obstructive uropathies	
Tuberculosis	
Lithiasis: single episode; recurrence	
Nephrectomy, transplantation, other treatment and assessment	
(10) Obstetrics and gynaecology	
Relation to aviation, risk of incapacitation	
Pregnancy and aviation	
Disorders, treatment and assessment	
(11) Musculoskeletal system	
Vertebral column diseases	
Arthropathies and arthroprosthesis	
Disabled pilots	
Treatment of musculoskeletal system, assessment for flying	
(12) Psychiatry	2 hours
Relation to aviation, risk of incapacitation	
Psychiatric examination	
Psychiatric disorders: neurosis; personality disorders; psychosis; organic mental illness	
Alcohol and other psychoactive substance use	
Treatment, rehabilitation and assessment	
(13) Psychology	2 hours
Introduction to psychology in aviation as a supplement to	

neuropsychiatric assessment	
Methods of psychological examination	
Behaviour and personality	
Workload management and situational awareness	
Flight motivation and suitability	
Group social factors	
Psychological stress, stress coping, fatigue	
Psychomotor functions and age	
Mental fitness and training	
(14) Neurology	3 hours
Relation to aviation, risk of incapacitation	
Examination procedures	
Neurological disorders	
Seizures – assessment of single episode	
Epilepsy	
Multiple sclerosis	
Head trauma	
Post-traumatic states	
Vascular diseases	
Tumours	
Disturbance of consciousness – assessment of single and repeated episodes	
Degenerative diseases	
Sleep disorders	
Treatment and assessment	
(15) Visual system and colour vision	4 hours
Anatomy of the eye	
Relation to aviation duties	
Examination techniques	
Visual acuity assessment	
Visual aids	
Visual fields – acceptable limits for certification	
Ocular muscle balance	
Assessment of pathological eye conditions	
Glaucoma	
Monocularity and medical flight tests	
Colour vision	
Methods of testing: pseudoisochromatic plates, lantern tests, anomaloscopy (CAD test)	
Importance of standardisation of tests and of test protocols	

Assessment after eye surgery	
(16) Otorhinolaryngology	3 hours
Anatomy of the systems	
Clinical examination in ORL	
Functional hearing tests	
Vestibular system; vertigo, examination techniques	
Assessment after ENT surgery	
Barotrauma ears and sinuses	
Aeronautical ENT pathology	
ENT requirements	
(17) Oncology	
Relation to aviation, risk of metastasis and incapacitation	
Risk management	
Different methods of treatment and assessment	
(18) Incidents and accidents, escape and survival	1 hour
Accident statistics	
Injuries	
Aviation pathology, postmortem examination, identification	
Aircraft evacuation	
Fire	
Ditching	
By parachute	
(19) Medication and flying	2 hours
Hazards of medications	
Common side effects; prescription medications; over-the-counter medications; herbal medications; 'alternative' therapies	
Medication for sleep disturbance	
(20) Legislation, rules and regulations	4 hours
ICAO Standards and Recommended Practices, European provisions (Implementing Rules, AMCs and GM)	
Incapacitation: acceptable aeromedical risk of incapacitation; types of incapacitation; operational aspects	
Basic principles in assessment of fitness for aviation	
Operational and environmental conditions	
Use of medical literature in assessing medical fitness; differences between scientific study populations and licensed populations	
Flexibility	
Annex 1 to the Chicago Convention, paragraph 1.2.4.9	
Accredited Medical Conclusion; consideration of knowledge, skill and	

experience	
Trained versus untrained crews; incapacitation training	
Medical flight tests	
(21) Cabin crew working environment	1 hour
Cabin environment, workload, duty and rest time, fatigue risk management	
Cabin crew safety duties and associated training	
Types of aircraft and types of operations	
Single-cabin crew and multi-cabin crew operations	
(22) In-flight environment	1 hour
Hygiene aboard aircraft: water supply, oxygen supply, disposal of waste, cleaning, disinfection and disinsection	
Catering	
Crew nutrition	
Aircraft and transmission of diseases	
(23) Space medicine	1 hour
Microgravity and metabolism, life sciences	
(24) Practical demonstrations of basic aeronautical competence	8 hours
(25) Concluding items	2 hours
Final examination	
De-briefing and critique	

AMC1 MED.C.015 Requirements for the extension of privileges
ADVANCED TRAINING COURSE IN AVIATION MEDICINE – GENERAL
(a) Advanced training course for AMEs Class 1 and Class 3
The advanced training course for AMEs Class 1 and Class 3 should consist of another ~~60~~ 76 hours of theoretical and practical training, including specific examination techniques.
(b) The learning objectives to acquire the necessary competencies in the advanced training course should include theoretical knowledge, risk management and decision-making, and should cover at least the subjects below. Demonstrations and practical skills should also be included, where appropriate.
Pilot and ATCO working environment;
Aerospace physiology;
Clinical medicine;
Cardiovascular system;
Neurology/psychiatry;
Visual system and colour vision;
Otorhinolaryngology;
Dentistry;
Human factors in aviation;
Incidents and accidents, escape and survival;
Tropical medicine;
Aspects of occupational medicine related to pilot and ATCO working environment
(c) Practical training in an AeMC should be under the guidance and supervision

of the head of the AeMC.
(d) After the successful completion of the practical training, a report of demonstrated competency should be issued.

GM1 MED.C.015(b) Requirements for the extension of privileges

ADVANCED TRAINING COURSE IN AVIATION MEDICINE – LEARNING OBJECTIVES (TOPICS AND DURATION) TO ACQUIRE THE NECESSARY COMPETENCIES

(a) Advanced Training Course in Aviation Medicine	~~60~~ 76 hours
(1) Pilot and ATCO working environment	6 hours + 2 h
(i) Commercial aircraft flight crew compartment	
Business jets, commuter flights, cargo flights	
Professional airline operations	
Fixed wing and helicopter, specialised operations including aerial work	
Air traffic control	
Flow control	
en route air traffic control centers	
approach air traffic control	
tower ATC	
Air traffic control organisation	
Single-ATC/multi-ATC positions	
Exposure to environmental factors	
Single-pilot/multi-pilot	
Exposure to radiation and other harmful agents	
(2) Aerospace physiology	4 hours + 2 h
Brief review of basics in physiology (hypoxia, rapid/slow decompression, hyperventilation, acceleration, ejection, spatial disorientation)	
Physiology in the ATCO environment (shiftwork, sedentary work, stress and boredom factors, isolation from natural environment)	
Simulator sickness	
Simulator training of ATCO's	
(3) Clinical medicine	5 hours + 2 h
Complete physical examination	
Review of basics with relationship to commercial flight operations, to ATC operations	
Regulation	
Class 1 & 3 requirements (differences)	
Clinical cases including statistical data for reasons of commercial pilots and ATCO morbidity and unfitness	
(4) Cardiovascular system	4 hours
Cardiovascular examination and review of basics	
Class 1 & 3 requirements	

Diagnostic steps in cardiovascular system	
Clinical cases	
(5) Neurology/psychiatry/psychology	4 hours + 2 h
Brief review of basics (neurological and psychiatric examination)	
Alcohol and other psychoactive substance use	
Class 1 & 3 requirements including psychology (stress, burn-out, boredom)	
Clinical cases	
(6) Visual system and colour vision	5 hours
Brief review of basics (visual acuity, refraction, colour vision, visual fields, night vision, stereopsis, monocularity)	
Class 1 & 3 visual requirements	
Implications of refractive and other eye surgery	
Clinical cases	
(7) Otorhinolaryngology	4 hours
Brief review of basics (barotrauma - ears and sinuses, functional hearing tests)	
Noise and its prevention	
Vibration, kinetosis	
The auditive environment in ATC work	
Air conditioning effects in ATC work	
Class 1 & 3 hearing requirements	
Clinical cases	
(8) Dentistry	2 hours
Oral examination including dental formula	
Oral cavity, dental disorders and treatment, including implants, fillings, prosthesis etc.	
Barodontalgia	
Clinical cases	
(9) Human factors in aviation, including ~~8~~ 12 hours demonstration and practical experience	19 hours + 6 h (for ATCO - 2h theory, 4h practice)
Long haul flight operations	
Flight time limitations	
Sleep disturbance	
Extended/expanded crew	
Jet lag/time zones	
Human information processing and system design	
Flight Management System (FMS), Primary Flight Display (PFD), datalink, fly by wire	
Adaptation to the glass cockpit	

Crew Co-ordination Concept (CCC), Crew Resource Management (CRM), Line Oriented Flight Training (LOFT) etc.	
Practical simulator training	
Ergonomics	
Crew commonality	
Flying under the same type rating e.g. A-318, A-319, A-320, A-321	
Human factors issues in air traffic control	
Shiftwork	
Air Traffic Control management systems; displays	
Adaptation to the various displays	
Sectors Co-ordination, Team Resource Management (CRM),	
Practical simulator training	
Ergonomics	
Human factors in aircraft incidents and accidents	
Flight safety strategies in commercial aviation	
Fear and refusal of flying / Fear and refusal of controlling	
Psychological selection criteria	
Operational requirements (flight time limitation, work time limitation, fatigue risk management, etc.)	
(10) Incidents and accidents, escape and survival	2 hours
Accident statistics	
Types of injuries	
Aviation pathology, postmortem examination related to aircraft accidents, identification	
Rescue and emergency evacuation	
(11) Tropical medicine	2 hours
Endemicity of tropical disease	
Infectious diseases (communicable diseases, sexual transmitted diseases, HIV etc.)	
Vaccination of flight crew and passengers	
Diseases transmitted by vectors	
Food and water-borne diseases	
Parasitic diseases	
International health regulations	
Personal hygiene of aviation personnel	
(12) Influence of environmental issues in flight operations and ATCO	+ 2 hours
(13) Concluding items	2 hours
Final examination	
De-briefing and critique	

AMC1 MED.C.020 Training courses in aviation medicine
GENERAL
Principals of training:
To acquire knowledge and skills for the aero-medical examination and assessment, the training should be:
(1) based on regulations;
(2) based on general clinical skills and knowledge necessary to conduct relevant examinations for the different medical certificates;
(3) based on knowledge of the different risk assessments required for various types of medical certification;
(4) based on an understanding of the limits of the decision-making competences of an AME in assessing safety-critical medical conditions for when to defer and when to deny;
(5) based on knowledge of aviation and ATC environment; and
(6) exemplified by clinical cases and practical demonstrations.
Training outcomes:
The trainees should demonstrate a thorough understanding of:
the aero-medical examination and assessment process:
principles, requirements and methods;
ability to investigate all clinical aspects that present aero-medical risks, the reasonable use of additional investigations;
the role in the assessment of the ability of the pilot, ATCO or cabin crew member to safely perform his/her duties in special cases, such as the medical flight test, OPS room or tower test;
aero-medical decision-making based on risk management;
medical confidentiality;
correct use of appropriate forms, and the reporting and storing of information.
international and national regulations;
ICAO Annex 1;
European regulations regarding medical certification, including the roles of AMEs, AeMCs and competent authorities;
responsibility and management of aviation personnel with a decrease in medical fitness (see MED.A.020);
the conditions under which the holders of medical report forms, and licenses and ratings carry out their duties; and
principles of preventive medicine, including aero-medical advice in order to help prevent future limitations;

AMC1 MED.C.030(b) Validity of AME certificates
REFRESHER TRAINING IN AVIATION MEDICINE – GENERAL
(a) It is the responsibility of the AME to continuously maintain his/her competence. The choice of activities should be based on the individual training needs of the AME.
(b) During the period of authorisation, an AME should attend 20 hours of refresher training to maintain his/her competencies both from a scientific and regulations perspective.
(c) A proportionate number of refresher training hours should be provided by, or conducted under the direct supervision of, the competent authority or the Medical Assessor.
(d) Attendance at scientific meetings, congresses, OPS room/tower and flight deck experience may be credited by the competent authority for a specified number of hours against the training obligations of the AME, provided the competent authority has assessed it in advance as being relevant for crediting purposes.

GM1 MED.C.030(b) Validity of AME certificates
REFRESHER TRAINING IN AVIATION MEDICINE - LEARNING OBJECTIVES (TOPICS AND DURATION) TO MAINTAIN THE NECESSARY COMPETENCIES

Scientific meetings, congresses or flight deck experience that may be credited by the competent authority:

(a) International Academy of Aviation and Space Medicine Annual Congresses (ICASM)	4 days – 10 hours credit
(b) European Conference of Aerospace Medicine (ECAM)	4 days – 10 hours credit
(c) Aerospace Medical Association Annual Scientific Meetings (AsMA)	4 days – 10 hours credit
(d) Other scientific meetings (A minimum of 6 hours to be under the direct supervision of the medical assessor of the competent authority)	4 days – 10 hours credit
(e) Flight crew compartment experience (a maximum of 5 hours credit per 3 years):	
(1) jump seat	5 sectors - 1 hour credit
(2) simulator	4 hours - 1 hour credit
(3) aircraft piloting	4 hours - 1 hour credit
(f) Visits to ATC simulator, OPS room or tower	2 hours - 1 hour credit

response *Partially accepted*

The AME training courses were amended where it could be done by adjustments. A full set of new AMC/GM would need proper consultation and this will be done in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART C — AERO-MEDICAL EXAMINERS (AMEs) — AMC1 ATCO.MED.C.025(b) Validity of AME certificates — REFRESHER TRAINING IN AVIATION MEDICINE p. 28

comment *88* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Section: AMC1 ATCO.MED.C.025(b)

Comment:

	AMC MED.D.030(b) and GM MED.D.030(b) have been considerably amended to clarify the content of AME recurrent training. As the requirements for recurrent training is also applicable for AMEs examining ATCOs, AMCs and GM to ATCO.MED.C should be amended to be consistent with Part-MED. The numbering should be changed to AMC1 ATCO.MED.C.030 to be consistent with Part-MED.
	Proposal: Add new AMCs and GM to ATCO.MED.C from AMC and GM to MED.D.
response	*Partially accepted* The AME training courses have been amended where it could be done by simple adjustments. It was considered that a complete set of new AMC/GM should undergo proper consultation and this will be done in a new rulemaking task.

AMC/GM TO PART-ATCO.MED — SUBPART C — AERO-MEDICAL EXAMINERS (AMEs) — GM1 ATCO.MED.C.025(b) Validity of AME certificates — REFRESHER TRAINING IN AVIATION MEDICINE p. 28

comment	*116* comment by: *EUROCONTROL* GM1 ATCO.MED.C.025 (b) (e) This GM should be a requirement of the implementing rule, with guidance in relation to what is observation.
response	*Partially accepted* The intent of the comment is accepted and additional GM can be drafted in a new rulemaking task.

2. Resulting text

For the resulting text please refer to **Annex B.VI(b)** published at http://easa.europa.eu/rulemaking/comment-response-documents-CRDs-and-review-groups.php

3. Appendix A — Attachments

EASA NPA 2012-18 ATCEUC Comments_finaldocx.pdf

Attachment #1 to comment #89

conversion course AME cl1 to AME cl3.ESAM.pdf

Attachment #2 to comment #41