



European Union Aviation Safety Agency

## **Notice of Proposed Amendment 2021-08(D)**

in accordance with

Articles 6(3), 7 and 8 (Standard procedure: public consultation) of MB Decision  
No 18-2015

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Enhanced mobility options and streamlined qualifications  
for air traffic controllers

RMT.0668

## AMC1 ATCO.D.010(a)(2)(iii) Composition of initial training

### APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING - ~~SUBJECT OBJECTIVES AND TRAINING OBJECTIVES~~

This document has been provided to help reviewers make a comparison between Easy Access Rules for Air Traffic Controllers' Licensing and Certification (Regulation (EU) 2015/340) and associated AMCs published in December 2019 (Reference: AMC1 to ATCO.D.010(a)(2)(iii) Composition of initial training) and the amendments proposed by the ATCO CCC TF. Proposed changes are the result of the review process agreed between EASA and EUROCONTROL and performed in 2020.

## TRACK CHANGES FILE

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

**Deleted** information is in red colour with the ~~strikethrough-effect~~

**New** information is in blue colour text.

**Relocated** information is in black colour with the ~~strikethrough-effect~~

The rationale/explanation of the change is, when appropriate, in the blue text box beneath the modified objective.

When an existing objective has been relocated (and consequently renumbered), the new number is shown in black to the left of the objective and the original (former version) number in red below the new one.

3.2.1 current objective number (if not modified it is the same as in the earlier version)

3.3.3 former objective number that may have an additional subject indication

if moved from one subject to another or B(asic) and R(ating) if moved from one syllabus to another. In Human Factors subject HUMUC indication means that related objective has been deleted and proposed for relocation to later stages of ATCO training (Unit-Continuation).

1.5.3 new objective number for relocated objectives at its original location that

may have an additional indication of a new subject or B(asic) and R(ating) if moved from one syllabus to another.

### APPROACH CONTROL PROCEDURAL RATING (APP) TRAINING — ~~SUBJECT OBJECTIVES AND TRAINING OBJECTIVES~~

(a) The general principles that apply to this AMC are contained in AMC1 ATCO.D.010(a).

(b) The ATCO rating training Approach Control Procedural Rating (APP) should contain the following ~~subject objectives and training objectives~~ that are associated with the subjects, topics and subtopics contained in Appendix ~~5.4 to of~~ Annex I to Commission Regulation (EU) 2015/340 — Approach Control Procedural Rating (APP).

(c) Subjects, topics and subtopics from Appendix ~~5.4 to of~~ Annex I to Commission Regulation (EU) 2015/340 are repeated in this AMC for the convenience of the reader and do not form part of it.

## Subject 1 : INTRODUCTION TO THE COURSE

The subject objective is:

~~Learners shall know and understand the training programme that they will follow and learn how to obtain the appropriate information.~~

INTR 1 COURSE MANAGEMENT					
INTR 1.1 Course introduction					
APP INTR 1.1.1	Explain the aims and main objectives of the course.	2 2			ALL
<p>ACCCT TF decided to discontinue (delete) the subject objectives, now being AMCs to ATCO Licensing Regulation, since they have no added value to the remaining training content (subjects/topics/subtopisc in the IR and associated training objectives in the AMCs).</p> <p>The proposal to remove the whole subject INTRODUCTION TO THE COURSE as regulatory requirement not accepted. Although not required by ICAO it is very useful and represents a good practice that should continue.</p>					
INTR 1.2 Course administration					
APP INTR 1.2.1	State how the course is administered.	1 1			ALL
INTR 1.3 Study material and training documentation					
APP INTR 1.3.1	Use appropriate documents and their sources for course studies.	3 3	Optional content: training documentation, library, CBT library, web, learning management server		ALL
APP INTR 1.3.2	Integrate appropriate information into course studies.	4 4	Training documentation Optional content: supplementary information, library		ALL
INTR 2 INTRODUCTION TO THE ATC TRAINING COURSE					
INTR 2.1 Course content and organisation					
APP INTR 2.1.1	State the different training methods used during the course.	1 1	Theoretical training, practical training, self-study, types of training events		ALL
APP INTR 2.1.2	State the subjects covered by the course and their purpose.	1 1			ALL
APP INTR 2.1.3	Describe the organisation of theoretical training.	2 2	Optional content: course programme		ALL

APP INTR 2.1.4	Describe the organisation of practical training.	2 2	Optional content: PTP, simulation, briefing, debriefing, course programme	ALL
<b>INTR 2.2 Training ethos</b>				
APP INTR 2.2.1	Recognise the feedback mechanisms available.	1 1	Training progress, assessment, briefing, debriefing, learner/instructor feedback, instructor/instructor feedback	ALL
<b>INTR 2.3 Assessment process</b>				
APP INTR 2.3.1	Describe the assessment process.	2 2		ALL

## Subject 2 : AVIATION LAW

The subject objective is:

~~Learners shall know, understand and apply the Rules of the Air and the Regulations regarding reporting, airspace and appreciate the Licensing and Competence principles:~~

### LAW 1 ATCO LICENSING/CERTIFICATE OF COMPETENCE

#### LAW 1.1 Privileges and conditions

APP LAW 1.1.1	Appreciate the conditions which shall be met to issue an Approach Control Procedural rating.	3 3	Regulation (EU) 2015/340 <del>on ATCO Licensing</del>	APP
			<i>Optional content: National documents</i>	
APP LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2 2		ALL
APP LAW 1.1.3	Explain the conditions for suspension/revocation of ATCO licence.	2 2	Regulation (EU) 2015/340 <del>on ATCO Licences</del>	ALL

### LAW 2 RULES AND REGULATIONS

#### LAW 2.1 Reports

APP LAW 2.1.1	Describe the functions of, and processes for, reporting.	2 2	Reporting culture, <b>mandatory and voluntary occurrence reporting forms</b> <b>air traffic incident report</b> , Regulation (EU) No 376/2014, Regulation (EU) No 2015/1018	ALL
2.1.2				
2.1.1				
			<i>Optional content: breach of regulations, watchbook/logbook, records, voluntary reporting</i>	

The proposal to delete this objective as being more appropriate for Unit training not accepted. Content is modified to stress the importance of occurrence reports ( mandatory and voluntary)

APP <del>LAW</del> 2.1.1	<del>List the standard forms for reports:</del>	1 1	<b>Air traffic incident report</b>	ALL
2.1.1			<i>Optional content: routine air reports, breach of regulations, watch/log book, records</i>	

The proposal to delete this objective as already covered in the following L2 and L3 objectives accepted.

APP LAW	Use forms for reporting.	3	Regulation (EU) No 376/2014,	ALL
2.1.2		3	mandatory and voluntary occurrence reporting forms	
2.1.3			air-traffic incident reporting form(s)	
2.1.2				

*Optional content: routine air reports, breach of regulations, watchbook/logbook, records*

Content improved but proposal to move this LAW 2.1.2 objective to ABES subject not accepted - The location of the practical objective in the Rating training is almost irrelevant. They all need to be covered and are dependent on the prerequisites (relation with other subjects/topics...) The idea behind this L3 objective is to apply some practical examples in the Rating training that should prepare students for application in their future working environment! The form used could be any but based on Reg. (EU) No 376/2014 Annex 1 common and specific data fields

## LAW 2.2 Airspace

APP LAW	Appreciate airspace classes and structure and their relevance to operations using the Approach Control Procedural rating.	3		APP
2.2.1		3		
APP LAW	Provide planning, coordination and control actions appropriate to the classification and structure of airspace.	4	Optional content: Regulation (EU) No 923/2012, international requirements, civil requirements, military requirements, areas of responsibility, sectorization, national requirements	ALL
2.2.2		4		
APP LAW	Appreciate responsibility for terrain clearance.	3		ALL
2.2.3		3		

## LAW 3 ~~ATS~~ ~~ATC~~ SAFETY MANAGEMENT

### LAW 3.1 Feedback process

APP LAW	State the importance of controller contribution to the feedback process.	1	Optional content: voluntary reporting	ALL
3.1.1		1		

The proposal to expend the relevance of safety management to ATS (not only ATC) accepted - topic title modified accordingly.

APP LAW	Describe how reported occurrences are analysed.	2	Optional content: Regulation (EU) No 376/2014, local procedures	ALL
3.1.2		2		
APP LAW	Name the means used to disseminate recommendations.	1	Optional content: safety letters, safety boards web pages	ALL
3.1.3		1		

APP LAW 3.1.4	Appreciate the "Just Culture" concept.	3 3	Benefits, prerequisites, constraints Optional content: <a href="https://www.Skybrary.aero">https://www.Skybrary.aero</a>	ALL
<b>LAW 3.2 Safety investigation</b>				
APP LAW 3.2.1	Describe role and objectives mission of safety investigation in the improvement of safety.	2 2		ALL
Improved wording but proposal to add ICAO Annex 13 to content not accepted - no need for any (regulatory) reference.				
APP <del>LAW</del> 3.2.2	<del>Define working methods of Safety Investigation.</del>	1 1		ALL
Objective deleted - partially covered in the objective 3.2.1 and working methods not important for ATCOs.				

## Subject 3 : AIR TRAFFIC MANAGEMENT

The subject objective is:

Learners shall manage air traffic to ensure safe, orderly and expeditious services.

### ATM 1 PROVISION OF SERVICES

#### ATM 1.1 Air traffic control (ATC) service

APP ATM	Appreciate own area of responsibility.	3		APP
1.1.1		3		ACP
				APS
				ACS

APP ATM	Provide approach control service.	4	Regulation (EU) No 923/2012, <del>ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444</del> , Regulation (EU) 2017/373, operating procedures for the simulated/training environment operation manuals	APP
1.1.2		4		APS

More appropriate wording for simulation environment and referenced documents

#### ATM 1.2 Flight information service (FIS)

APP ATM	Provide FIS.	4	<del>ICAO Doc 4444</del> Regulation (EU) No 923/2012, Regulation (EU) 2017/373	ALL
1.2.1		4		

Optional content: national documents

Regulatory update - Regulation (EU) 373/2017 - Transposed within ATS.TR.300(c)(1). and ATS.TR.305 and associated AMC1 ATS.TR.305

APP ATM	Issue appropriate information concerning the position of conflicting traffic.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, <del>ICAO Doc 4444</del> , traffic information, essential traffic information	APP
1.2.2		3		ACP
				APS
				ACS

Regulatory updated - Regulation (EU) 2017/373 - AMC1 ATS.TR.155(e).

APP ATM	Appreciate the use of ATIS in the provision of flight information service.	3	Regulation (EU) No 923/2012	APP
1.2.3		3		APS
				ADC
				ACP
				ACS

#### ATM 1.3 Alerting service (ALRS)

APP ATM	Provide ALRS.	4	<del>ICAO Doc 4444</del> Regulation (EU) 2017/373, Regulation (EU) No 923/2012	ALL
1.3.1		4		

Optional content: national documents

Regulatory updated - Regulation (EU) 2017/373 -Transposed within GM1 ATS.TR.400(b);GM1 ATS.TR.405 (a)(1);GM2 ATS.TR.300(c)(2).



APP ATM 1.3.2	Respond to distress and urgency messages and signals.	3 3	Regulation (EU) No 923/2012, ICAO Annex 10, <del>ICAO Doc 4444</del>  <i>Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ICAO Doc 4444, national documents</i>	ALL
Regulatory updated - Regulation (EU) 2017/373. The proposal to add ICAO Annex 12 not accepted - Annex 12 is about and for SAR service - there is almost nothing there about how ATC units providing alerting service should respond to distress and urgency messages and signals.				
<b>ATM 1.4 ATS system capacity and air traffic flow management</b>				
APP ATM 1.4.1	Appreciate the impact of ATS system capacity and air traffic flow management on the controller.	3 3	<i>Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free route airspace, local implementation of ATFCM principles, etc.</i>	APP ACP APS ACS
The proposal to reduce the action verb level - not accepted. "Appreciate" in most of the cases does not require simulation and APP environment is affected by ATFCM as well.				
APP ATM 1.4.2	<del>Take account of</del> <b>Apply</b> flow management procedures in the provision of ATC.	2 2<3	<i>Optional content: EUROCONTROL ATFCM Users Manual</i>	APP APS
The proposal to reduce the level of action verb accepted - and although the APP/APS environment may be affected by ATFCM this TF accepted that it is difficult to simulate.				
APP ATM 1.4.3	Organise traffic flows and patterns to take account of airspace boundaries.	4 4	<i>Optional content: civil and military, controlled, uncontrolled, advisory, restricted, danger, prohibited, special rules, sector boundaries, national boundaries, FIR boundaries, delegated airspace, transfer of control, transfer of communications, en-route, off-route</i>	APP ACP APS ACS
APP ATM 1.4.4	Organise traffic flows and patterns to take account of areas of responsibility.	4 4	<i>Optional content: EUROCONTROL ATFCM Users Manual</i>	APP ACP APS ACS
APP ATM 1.4.5	Inform supervisor of local factors affecting ATS system capacity and air traffic flow management.	3 3	<i>Optional content: abnormal situations, decrease in sector capacity, limitations on systems and equipment, changes in workload/capacity, unusual meteorological conditions, relevant information like: reported ground-based incidents, forest fire, smoke, oil pollution</i>	APP ACP APS ACS
<b>ATM 1.5 Airspace management (ASM)</b>				
APP ATM 1.5.1	Appreciate the impact of ASM on the controller.	3 3	<i>Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs, free route airspace</i>	APP ACP APS ACS

APP ATM 1.5.2	Organise traffic to take account of ASM.	4 4	Optional content: CDR, TSA, TRA, CBA, real-time activation, deactivation or reallocation of airspace	APP ACP
<b>ATM 2 COMMUNICATION</b>				
<b>ATM 2.1 Effective communication</b>				
APP ATM 2.1.1	List communication means between controllers. <del>in charge of the same area of responsibility (sector or tower).</del>	1 1	Optional content: electronic, written, verbal and non-verbal communication	ALL
HUM 6.2.1 2.1.1				
The proposal of merging and moving some communication objectives to ATM subject accepted. Objective modified to widen the scope.				
APP ATM 2.1.2	Select the most suitable means of communication given the situation.	5 5		ALL
2.1.2				
Important practical objective introduced in ATM communications .				
APP ATM 2.1.3	Use approved phraseology.	3 3	Regulation (EU) No 923/2012 Optional content: published national/local language phraseology	ALL
2.1.1				
The proposal to add national references to optional content modified to "published national/local language phraseology" - to avoid the challenge for auditors in dealing with the national and EU/ICAO differences particularly in the practical part (safety risk due to different content)				
APP ATM 2.1.4	Ensure effective communication.	4 4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs /ATC Units <del>Communication techniques</del> , readback/verification of readback	ALL
2.1.2				
Improved content				
APP ATM 2.1.5	Analyse examples of pilot and controller communication for effectiveness.	4 4	Optional content: real life recordings, situation in the simulator	ALL
HUM 6.1.2				
Merging of communication objectives in the ATM and optional content added to clarify the requirement.				
<b>ATM 3 ATC CLEARANCES AND ATC INSTRUCTIONS</b>				
<b>ATM 3.1 ATC clearances</b>				
APP ATM 3.1.1	Issue appropriate ATC clearances.	3 3	Regulation (EU) No 923/2012 Optional content: ICAO Doc 4444, national documents	ALL

APP ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4 4		ALL
APP ATM 3.1.3	Ensure the agreed course of action is carried out.	4 4		ALL
<b>ATM 3.2 ATC instructions</b>				
APP ATM 3.2.1	Issue appropriate ATC instructions.	3 3	Regulation (EU) No 923/2012, <del>ICAO Doc 4444</del> , Regulation (EU) 2017/373 <i>Optional content: national documents</i>	ALL
Regulatory updated - Regulation (EU) 2017/373				
APP ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4 4		ALL
APP ATM 3.2.3	Ensure the agreed course of action is carried out.	4 4		ALL
<b>ATM 4 COORDINATION</b>				
<b>ATM 4.1 Necessity for coordination</b>				
APP ATM 4.1.1	Identify the need for coordination.	3 3		ALL
<b>ATM 4.2 Tools and methods for coordination</b>				
APP ATM 4.2.1	Use the available tools for coordination.	3 3	<i>Optional content: electronic transfer of flight data, telephone, interphone, intercom, direct speech, radiotelephone (RTF), local agreements, automated system coordination</i>	ALL
<b>ATM 4.3 Coordination procedures</b>				
APP ATM 4.3.1	Initiate appropriate coordination.	3 3	Delegation/transfer of responsibility for air-ground communications and separation, transfer of control, etc. <del>ICAO Doc 4444</del> Regulation (EU) 2017/373 <i>Optional content: release point</i>	ALL
Regulatory updated - Regulation (EU) 2017/373 - Transposed within ATS.TR.230.a and associated AMCs/GMs				

APP ATM 4.3.2	Analyse effect of coordination requested by an adjacent position/unit.	4 4	<i>Optional content: delegation/transfer of responsibility for air-ground communications and separation, release point, transfer of control, etc.</i>	ALL
APP ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5 5		ALL
APP ATM 4.3.4	Ensure the agreed course of action is carried out.	4 4		ALL
APP ATM 4.3.5	Coordinate when providing FIS.	4 4	<del>ICAO Doc 4444</del> Regulation (EU) 2017/373 <i>Optional content: ICAO Doc 4444</i>	ALL
Regulatory update - Regulation (EU) 2017/373 with ICAO content transposed in the AMC's and GM to Part-ATS. TR.230.a, though not all, and, therefore ICAO Doc 4444 moved to optional content.				
APP ATM 4.3.6	Coordinate when providing ALRS.	4 4	<del>ICAO Doc 4444</del> Regulation (EU) 2017/373 <i>Optional content: ICAO Doc 4444</i>	ALL
Regulatory update - Regulation(EU) 2015/373 - transposition as GM2 ATS.TR.300(c). The proposal to add ICAO Annex 12 to content - not accepted - there is almost nothing there about how ATC units providing alerting service should coordinate with others.				

## ATM 5 ALTIMETRY AND LEVEL ALLOCATION

### ATM 5.1 Altimetry

APP ATM 5.1.1	Allocate levels according to altimetry data.	4 4	Regulation (EU) No 923/2012	ALL
APP ATM 5.1.2	Ensure separation according to altimetry data.	4 4	<i>Optional content: transition level, transition altitude, transition layer, height, flight level, altitude, vertical distance to airspace boundaries</i>	ALL

### ATM 5.2 Terrain clearance

APP ATM 5.2.1	Provide planning, coordination and control actions appropriate to the rules for minimum <del>safe</del> <i>usable</i> levels and terrain clearance.	4 4	<i>Optional content: terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude</i>	APP ACP
The proposal to soften the wording of the objective (usable instead of safe) accepted but removing the "terrain clearance" not.				

## ATM 6 SEPARATIONS

### ATM 6.1 Vertical separation

APP ATM 6.1.1	Provide standard vertical separation.	4 4	Regulation (EU) No 923/2012, ICAO Doc 4444, level allocation, during climb/descent, rate of climb/descent, holding pattern	APP APS
APP ATM 6.1.2	Provide increased vertical separation.	4 4	Regulation (EU) No 923/2012, ICAO Doc 4444  <i>Optional content: level allocation, during climb/descent, rate of climb/descent, degraded aircraft performance, non-RVSM aircraft, reported severe turbulence</i>	APP ACP APS ACS
APP ATM 6.1.3	Appreciate the application of vertical emergency separation.	3 3	Regulation (EU) No 923/2012, ICAO Doc 4444, ICAO Doc 7030	APP ACP APS ACS

### ATM 6.2 Horizontal separation

APP ATM 6.2.1	Provide longitudinal separation.	4 4	Regulation (EU) 2017/373, Based on time, based on distance (DME and/or GNSS, RNAV)	APP
Regulatory updated - Regulation (EU) 2017/373 - Transposed within AMC2 ATS.TR.210(c)(2)(i).				
APP ATM 6.2.2	Provide lateral separation.	4 4	Regulation (EU) 2017/373, <del>ICAO Doc 4444, ICAO Doc 7030</del> , holding	APP ACP
Regulatory updated - Regulation (EU) 2017/373 - Transposed in AMC1 ATS.TR.210(c)(2)(ii).				
APP ATM 6.2.3	Provide track separation.	4 4		ACP APP
APP ATM 6.2.4	Provide geographical separation.	4 4	Visual, using navigation aids, area navigation	ACP APP

### ATM 6.3 Delegation of separation

APP ATM 6.3.1	Delegate separation to pilots in the case of aircraft executing successive visual approaches.	4 4		APP APS
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APP ATM 6.3.2	Appreciate the conditions which must be met when delegating separation to pilots to fly maintaining own separation while in VMC.	3 3	Regulation (EU) 2017/373, <del>ICAO Doc 4444</del>	APP APS
Regulatory updated - Regulation (EU) 2017/373 - Transposed in ATS.TR.210(b) and associated AMCs + GM1 ATS.TR.210(b) and GM2 ATS.TR.210(b)				

## ATM 7 AIRBORNE ~~COLLISION AVOIDANCE SYSTEMS AND GROUND-BASED~~ SAFETY NETS

### ATM 7.1 Airborne ~~safety nets~~ collision avoidance systems

APP ATM 7.1.1	Recognise the independence of <del>Differentiate between</del> ACAS <del>advisory</del> thresholds and <del>aerodrome</del> ATC separation standards.	1 1<2	ICAO Doc 9863 Optional content: Skybrary Safety Nets	ALL
Improved corpus and level reduced from 2 to 1, optional content and objective merged for all ratings.				
APP ATM 7.1.1 7.1.1 ALL R	<del>Differentiate between ACAS advisory thresholds and separation standards applicable in the approach control environment.</del>	2 2	ICAO Doc 9863 Optional content: <del>EUROCONTROL ACAS web page</del>	APP APS
Objective reworded and merged for ALL ratings!				
APP ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2 2	ICAO Doc 4444 Optional content: ICAO Doc 9863, Skybrary Safety Nets	ALL
Updated optional content with the relevant ICAO reference document and SKYbrary				
APP ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3 3	ACAS, <del>TAWS</del> Optional content: <del>EUROCONTROL ACAS web page</del> TAWS, Skybrary Safety Nets	APP APS ACP ACS
Updated content and redundant reference + Subtopic modified to 7.1 Airborne safety nets				

## ATM 8 DATA DISPLAY

### ATM 8.1 Data management

APP ATM 8.1.1	Update the data display to accurately reflect the traffic situation.	3 3	Optional content: information displayed, strip marking procedures, electronic information data displays, actions based on traffic display information, calculation of EETs	ALL
APP ATM 8.1.2	Analyse pertinent data on data displays.	4 4		ALL

APP ATM 8.1.3	Organise pertinent data on data displays.	4 4		ALL
APP ATM 8.1.4	Obtain flight plan information.	3 3	CPL, <del>FPL</del> , supplementary information Optional content: <del>FPL</del> , RPL, AFIL, etc.	ALL
The proposal to delete this objective as being relevant only for pilots not accepted but mandatory content modified to reduce the scope only to CPL and supplementary information.				
APP ATM 8.1.5	Use flight plan information.	3 3		ALL
<b>ATM 9 OPERATIONAL ENVIRONMENT (SIMULATED)</b>				
<b>ATM 9.1 Integrity of the operational environment</b>				
APP ATM 9.1.1	Obtain information concerning the operational environment.	3 3	Optional content: <del>local/simulator operation manuals, briefing, notices, local orders,</del> current flight plan data/information displays, pilot reports, coordination, verification of information	ALL
Improved optional content.				
APP ATM 9.1.2	Ensure the integrity of the operational environment.	4 4	Optional content: integrity of displays, verification of the information provided by displays, etc.	APP ACP APS ACS
<b>ATM 9.2 Verification of the currency of operational procedures</b>				
APP ATM 9.2.1	Check all relevant documentation before managing traffic.	3 3	Optional content: briefing, letters of agreement (LOAs), NOTAMs, AICs	ALL
APP ATM 9.2.2	Manage traffic in accordance with a change to operational procedures.	4 4		APP ACP APS ACS
<b>ATM 9.3 Handover-takeover</b>				
APP ATM 9.3.1	Transfer information to the relieving controller.	3 3		ALL
APP ATM 9.3.2	Obtain information from the controller handing over.	3 3		ALL

APP ATM 9.3.3	List possible actions to provide a safe position handover- <a href="#">takeover</a> .	1 1	<i>Optional content: rigour, preparation, overlap time</i>	ALL
HUM 6.2.3				
ATM 9.3.3				
Relocation of handover-takeover objective from HUM to the appropriate ATM subtopic.				
APP ATM 9.3.4	Explain consequences of a missed position handover- <a href="#">takeover</a> process.	2 2		ALL
HUM 6.2.4				
ATM 9.3.4				
Relocation of handover-takeover objective from HUM to the appropriate ATM subtopic				
<b>ATM 10 PROVISION OF CONTROL SERVICE</b>				
<b>ATM 10.1 Responsibility and processing of information</b>				
APP ATM 10.1.1	Describe the division of responsibility among air traffic control units.	2 2	<del>ICAO Doc 4444</del> , Regulation (EU) 2017/373	ALL
<i>Optional content: ICAO Doc 4444</i>				
Regulatory update - Regulation (EU) 2017/373 - Transposed in AMC1 ATS.TR.205.;ATS.TR.230(a);GM1 ATS.TR.230(a)(3); GM1 to AMC3 ATS.TR.230(b)(2), though not all, and, therefore ICAO Doc 4444 moved to optional content.				
APP ATM 10.1.2	Describe the responsibility in regard to military traffic.	2 2	ICAO Doc 4444	ALL
<i>Optional content: ICAO Doc 9554</i>				
APP ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2 2	Regulation (EU) No 923/2012	ALL
APP ATM <del>10.1.4</del>	<del>Obtain operational information.</del>	3 3	<del>ICAO Doc 4444, local operation manuals</del>	APP ACP APS ACS
Objective deleted - already covered in 9.1.1 (Obtain information concerning the operational environment.)				
APP ATM 10.1.4	Interpret operational information.	5 5		APP ACP APS ACS
10.1.5				
10.1.4				
APP ATM 10.1.5	Organise forwarding of operational information.	4 4	<i>Optional content: including the use of backup procedures</i>	APP ACP APS ACS
10.1.6				



APP ATM 10.1.6 10.1.7	Integrate operational information into control decisions.	4 4		APP ACP APS ACS
APP ATM 10.1.7 10.1.8 10.1.7	Appreciate the influence of operational requirements.	3 3	Optional content: military flying, calibration flights, aerial photography	ALL
<b>ATM 10.2 Approach control</b>				
APP ATM 10.2.1	Explain the responsibility for the provision of an approach procedural control service.	2 2	ICAO Doc 4444, Regulation (EU) 2017/373, <del>ICAO Annex 11</del> , local operation manuals Optional content: local/simulator operation manuals	APP
Regulatory update - Regulation (EU) 2017/373 - Transposed in Annex IV 'Part-ATS' as ATS.TR.205 and some associated AMC's and GM related to provision of approach services in the vicinity of aerodromes but Doc 4444 kept as not many provisions from Chapter 6 had been transposed; local/simulator operation manual added to optional content for consistency with the similar objectives applicable in the rating training simulation environment;				
APP ATM 10.2.2	Provide planning, coordination and control actions appropriate to VFR, SVFR and IFR traffic in VMC and IMC.	4 4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, ICAO Doc 4444	APP APS
<b>ATM 10.3 Traffic management process</b>				
APP ATM 10.3.1	Ensure that situational awareness is maintained.	4 4	Information gathering, traffic projection	APP ACP
APP ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4 4		ALL
APP ATM 10.3.3	Identify potential solutions to achieve a safe and effective traffic flow.	3 3		APP ACP APS ACS
APP ATM 10.3.4	Evaluate possible outcomes of different planning and control actions.	5 5		ALL
APP ATM 10.3.5	Select an appropriate plan in time to achieve safe and effective traffic flow.	5 5		APP ACP APS ACS

APP ATM 10.3.6	Ensure an adequate priority of actions.	4 4		ALL
APP ATM 10.3.7	Execute selected plan in a timely manner.	3 3		ALL
APP ATM 10.3.8	Ensure a safe and efficient outcome is achieved.	4 4	Traffic monitoring, adaptability and follow up	ALL

## ATM 10.4 Handling traffic

APP ATM 10.4.1	Manage arrivals, departures and overflights.	4 4	Optional content: simulator operation procedures	APP ACP APS ACS
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The proposal to add "simulator operation procedures" to optional content accepted.

APP ATM 10.4.2	Balance the workload against personal capacity.	5 5	Optional content: re-routing, re-planning, prioritising solutions, denying requests, delegating responsibility for separation	APP ACP APS ACS
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APP ATM 10.4.3	Manage traffic on different types of approaches.	4 4	Precision, non-precision, visual	APP APS
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APP ATM 10.4.4	Initiate missed approach.	3 3	<del>ICAO Doc 4444</del> , Regulation (EU) No 923/2012, Regulation (EU) 2017/373 Optional content: Skybrary	APP APS
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Regulatory update - Regulation (EU) 2017/373; Transposed in AMC's ATS.TR.255., AMC1 ATS.TR.155(c)(3).

APP ATM 10.4.5	Integrate aircraft on missed approach into the traffic situation.	4 4		APP APS
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## ATM 11 HOLDING

### ATM 11.1 General holding procedures

APP ATM 11.1.1	Apply holding procedures.	3 3	ICAO Doc 4444, Regulation (EU) No 923/2012, Regulation (EU) 2017/373, holding instructions, allocation of holding levels, onward clearance times	APP ACP APS ACS
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Regulatory updated - Regulation (EU) 2017/373 - Transposed in Annex IV 'Part-ATS' as AMC4 ATS.TR.210 (a)(3) related to holding but Doc 4444 kept as not all provisions from Chapter 6.5.5 had been transposed.

APP ATM 11.1.2	Appreciate the factors affecting holding patterns.	3 3	Effect of speed, effect of level used, effect of navigation aid in use, turbulence, aircraft type	APP ACP APS ACS
<b>ATM 11.2 Approaching aircraft</b>				
APP ATM 11.2.1	Issue Expected Approach Times (EATs).	3 3		APP APS
APP ATM 11.2.2	Organise the traffic landing sequence in a holding pattern.	4 4	<i>Optional content: company preference, aircraft performance, aircraft approach capability, ILS categories, flow control management</i>	APP APS

## Subject 4 : METEOROLOGY

The subject objective is:

Learners shall acquire, decode and make proper use of meteorological information relevant to the provision of ATS.

MET 1 METEOROLOGICAL PHENOMENA					
MET 1.1 Meteorological phenomena					
APP MET 1.1.1	Appreciate the impact of adverse weather.	3 3	Thunderstorms, icing, clear air turbulence (CAT), turbulence, microburst, wind shear, severe mountain waves, squall lines, volcanic ash	APP APS	
APP MET 1.1.2	Integrate data about meteorological phenomena into provision of ATS.	4 4	Clearances, instructions and transmitted information  <i>Optional content: relevant meteorological phenomena</i>	ALL	
APP MET 1.1.3	Use techniques to avoid adverse weather when necessary/possible.	3 3	Re-routing, level change, etc.	APP ACP APS ACS	
MET 2 SOURCES OF METEOROLOGICAL DATA					
MET 2.1 Sources of meteorological information					
APP MET 2.1.1	Obtain meteorological information.	3 3	METAR, TAF, SIGMET, AIRMET  <i>Optional content: AIREP/AIREP Special</i>	APP ACP APS ACS	
The proposal to make the optional content mandatory not accepted as current mandatory content is enough for practical application in Initial training.					
APP MET 2.1.2	Decode information from meteorological data displays.	3 3		ALL	
The proposal to move METB objective related to decoding of weather reports and forecasts to all ratings modified by making similar ADC objective common for all ratings for consistency.					
APP MET 2.1.3	Relay meteorological information.	3 3	ICAO Doc 4444, Regulation (EU) No 923/2012  <i>Optional content: flight information centre, adjacent ATS unit</i>	ALL	
2.1.2					
2.1.3					

## Subject 5 : NAVIGATION

The subject objective is:

Learners shall analyse all navigational aspects in order to organise the traffic.

### NAV 1 MAPS AND AERONAUTICAL CHARTS

#### NAV 1.1 Maps and charts

APP NAV 1.1.1	Decode symbols and information displayed on aeronautical maps and charts.	3 3	Instrument approach charts, SID & STAR charts, aerodrome charts <i>Optional content: visual approach charts, military maps and chart</i>	APP APS
APP NAV 1.1.2	Use relevant maps and charts.	3 3		ALL

The proposal to move this objective to ATM not accepted - The location of the practical objectives in the Rating training is almost irrelevant. They all need to be covered and are dependent on the prerequisites (relation with other subjects/topics...). Therefore most of them are covered in the simulator and linked with the major subject - ATM, anyway.

### NAV 2 INSTRUMENT NAVIGATION

#### NAV 2.1 Navigational systems

APP NAV 2.1.1	Manage traffic in case of change in the operational status of navigational systems.	4 4	<i>Optional content: limitations, availability and status of ground-based and satellite-based systems</i>	APP ACP APS ACS
APP NAV 2.1.2	Appreciate the effect of a change in the operational status of navigational systems.	3 3	<i>Optional content: precision, limitations, status, degraded procedures</i>	ALL

#### NAV 2.2 Stabilised approach

APP NAV 2.2.1	Describe the concept of stabilised approach.	2 2	<i>Optional content: Skybrary</i>	ADC APP APS
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The proposal to move this objective to ACFT not accepted - The location of the objectives in the Rating training is almost irrelevant. They all need to be covered and are dependent on the prerequisites (relation with other subjects/topics...). Therefore most of them are related to or covered in the SIM and linked with the major subject - ATM, anyway.

APP NAV 2.2.2	Appreciate the effect of late change of runway-in-use or type of approach for landing aircraft.	3 3	Cockpit workload <i>Optional content: Impact on vertical profile (CDO), FMS management, crew procedure briefing, missed approach, loss of situational awareness, etc</i>	APP APS
APP NAV 2.2.3	Appreciate controller actions that may contribute to unstabilised approach.	3 3	Delayed descent	APP

### NAV 2.3 Instrument departures and arrivals

APP NAV	Describe relevant SIDs and STARs.	2		APP
2.3.1		2		APS

The proposal to introduce optional content for ATCOs to understand that direct to and/or explicit speed instructions can affect Radius to Fix performance not accepted as already covered in the Basic training (NAVB 6.1.4) and newly introduced NAV 2.3.3

APP NAV	Describe the types and phases of	2	Regulation (EU) 2017/373,	ADC
2.3.2	instrument approach procedures.	2	ICAO Annex 6	APP
				APS

The proposal to add relevant documents to content accepted.

APP NAV	Describe the relevant minima applicable	2	Optional content: Type A/B operations, CAT	ADC
2.3.3	for a precision/ non-precision and visual	2	I/II/III criteria, LNAV, LNAV/VNAV, LPV,	APP
	approach.		RNP AR APCH minima	APS

### NAV 2.4 Navigational assistance

APP NAV	Evaluate the necessary information to	5	Optional content: nearest most suitable	APP
2.4.1	be provided to pilots in need of	5	aerodrome, track, heading, distance,	ACP
	navigational assistance.		aerodrome information, any other	APS
			navigational assistance relevant at the time	ACS

### NAV 2.5 Satellite-based systems

APP NAV	State the different applications of	1	RNP APCH, RNP AR APCH, SBAS,	APP
2.5.1	satellite-based systems relevant for	1	GBAS	APS
	approach operations.		Optional content: LNAV, LNAV/VNAV, LPV,	
			RNP minima, precision approach	

### NAV 2.6 PBN applications

APP NAV	State the navigation applications used in	1	Approach-RNP APCH/ RNP AR APCH;	APP
2.6.1	approach and terminal environments.	1	Terminal-RNAV-1, RNP 1 with RF;	APS
			rotorcraft option RNP 0.3	
			Optional content: Regulation (EU) 716/2014,	
			Regulation (EU) 2018/1048, ICAO Doc 9613	
APP NAV	Explain the principles and designation of	2	Performance, functionalities, sensors	APP
2.6.2	navigation specifications in use.	2	Optional content: aircrew and controller	ACP
			requirements, accuracy requirements,	APS
			integrity and continuity	ACS

APP NAV	Describe differences in turn	2		APP
2.6.3	performances.	2	Optional content: fly by, fly over, RF, ICAO	APS
			Doc 4444	

Important for ATCOs to understand that "direct to" and/or explicit speed instructions can affect Radius to Fix performance and to highlight turn performance and the variability in aircraft path around a turn - see ICAO Doc 4444 Chapter 5 Para 5.4.1.1.4 Note 2

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APP NAV State future PBN developments.

2.6.4

2.6.3

2.6.4

1 A-RNP, RNP (AR) DEP

1 *Optional content: RNP 3D, VNAV, 4D, TBO*

ALL  
APP  
APS

## Subject 6 : AIRCRAFT

The subject objective is:

Learners shall assess and integrate aircraft performance in the provision of ATS.

### ACFT 1 AIRCRAFT INSTRUMENTS

#### ACFT 1.1 Aircraft instruments

APP ACFT	Integrate information from aircraft	4		ALL
1.1.1	instruments provided by the pilot in the provision of ATS.	4		

The proposal to make some content mandatory not accepted - making some examples explicit and mandatory could be too demanding for both the students and TOs but also limit the implementation to listed mandatory content only.

APP ACFT	Explain the operation of aircraft radio	2	Optional content: radios (number of),	ALL
1.1.2	equipment.	2	emergency radios	

### ACFT 2 AIRCRAFT CATEGORIES

#### ACFT 2.1 Wake turbulence

APP ACFT	Explain the wake turbulence effect and	2		ALL
2.1.1	associated hazards to the succeeding aircraft.	2		

APP ACFT	Appreciate the techniques used to	3		ALL
2.1.2	prevent hazards associated with wake turbulence on succeeding aircraft.	3		

#### ACFT 2.2 Application of ICAO approach categories

APP ACFT	Describe the use of ICAO approach	2	ICAO Doc 8168	ADC
2.2.1	categories.	2		APP
				APS

APP ACFT	Appreciate the effect of ICAO approach	3		ADC
2.2.2	categories on the traffic organisation.	3		APP
				APS

### ACFT 3 FACTORS AFFECTING AIRCRAFT PERFORMANCE

#### ACFT 3.1 Climb factors

APP ACFT	Integrate the influence of factors	4	Optional content: speed, mass, air density,	APP
3.1.1	affecting aircraft during climb.	4	cabin pressurisation, wind and temperature	ACP
				APS
				ACS

APP ACFT	Describe the influence of factors	2	Optional content: runway conditions, runway	APP
3.1.2	affecting departing aircraft.	2	slope, aerodrome elevation, wind,	APS
			temperature, aircraft configuration, airframe	
			contamination and aircraft mass	



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### ACFT 3.2 Cruise factors

APP ACFT	Integrate the influence of factors	4	<i>Optional content: Level, cruising speed, wind, mass, cabin pressurisation</i>	APP APS
3.2.1	affecting aircraft during cruise.	4		

The proposal to delete this subtopic and associated objective for APP/APS not accepted - cruising factor is relevant in some Member States' approach environments.

### ACFT 3.3 Descent and initial approach factors

APP ACFT	Integrate the influence of factors	4	<i>Optional content: wind, speed, rate of descent, aircraft configuration, cabin pressurisation</i>	APP APS
3.3.1	affecting aircraft during descent.	4		

### ACFT 3.4 Final approach and landing factors

APP ACFT	Integrate the influence of factors	4	<i>Optional content: wind, aircraft configuration, mass, meteorological conditions, runway conditions, runway slope, aerodrome elevation</i>	APP APS
3.4.1	affecting aircraft during final approach and landing.	4		

### ACFT 3.5 Economic factors

APP ACFT	Integrate consideration of economic factors affecting aircraft.	4	<i>Optional content: routing, level, speed, rate of climb and rate of descent, approach profile</i>	APP APS
3.5.1		4		

APP ACFT	Use continuous climb techniques where applicable.	3		APP <i>ACP</i>
3.5.2		3		

APP ACFT	Use direct routing where applicable.	3		APS <i>APP</i>
3.5.3		3		

### ACFT 3.6 Environmental factors

APP ACFT	Appreciate the performance restrictions due to environmental considerations.	3	<i>Optional content: fuel dumping, noise abatement procedures, minimum flight levels, bird hazard, continuous descent operations</i>	APP APS
3.6.1		3		

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## ACFT 4 AIRCRAFT DATA

### ACFT 4.1 Performance data

APP ACFT	Integrate the average performance data of a representative sample of aircraft which will be encountered in the operational/working environment into the provision of a control service.	4	Performance data under a representative variety of circumstances	APP ACP APS ACS
4.1.1		4		

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## Subject 7 : HUMAN FACTORS

The subject objective is:

Learners shall recognise the necessity to constantly extend their knowledge and analyse factors which affect personal and team performance.

HUM 1 INFORMATION PROCESSING PSYCHOLOGICAL FACTORS					
HUM 1.1 Cognitive and factors influencing it					
APP HUM 1.1.1	Describe the human information processing model.	2 2	Attention, perception, memory, situational awareness, decision-making, response	ALL	
APP HUM 1.1.2	Describe the factors which influence human information processing.	2 2	Confidence, stress, learning, knowledge, experience, fatigue, alcohol/drugs, distraction, interpersonal relations	ALL	
HUM 1.2 Situational awareness					
APP HUM 1.2.1	Appreciate the effect of human information-processing factors on situational awareness.	3 3	Optional content: workload, knowledge, interpersonal relations, distraction, confidence, experience, fatigue, stress	ALL	
New subtopic "Situational awareness" and associated objective to stress the importance of situational awareness and in the right order (Cognitive->SA->DM)					
HUM 1.3 Decision-making					
APP HUM 1.3.1	Appreciate Monitor the effect of human information processing factors on decision-making.	3 3	Optional content: workload, stress, interpersonal relations, distraction, confidence	ALL	
1.1.3					
1.3.1					
New subtopic "Decision-making" and more appropriate action verb for associated objective to stress the importance of decision-making and in the right order (Cognitive->SA->DM)					
HUM 2 MEDICAL AND PHYSIOLOGICAL FACTORS AFFECTING HEALTH AND WELL-BEING					
HUM 2.1 Fatigue					
APP HUM 2.1.1	State factors that cause fatigue:	1 4	Shift work Optional content: night shifts and rosters; Regulation (EU) 2017/373; ICAO/IFATCA/CANSO's Fatigue Management Guide for Air Traffic Service Providers	ALL	
The proposal to delete this objective accepted - Well covered at level 2 in Basic HUMB 2.2.4 Explain the causal factors of stress and fatigue.					

APP HUM 2.1.1 2.1.2	Describe the onset of fatigue.	2 2	Regulation (EU) 2017/373 <i>Optional content: lack of concentration, listlessness, irritability, frustration, Skybrary Human Behaviour: EUROCONTROL Fatigue and sleep management ICAO Circular 241 – AN/145 Human factors in Air Traffic Control</i>	ALL
Improved content and renumbering: Eurocontrol booklet better for IT while CANSO/ICAO guide is more for unit the training				
APP HUM 2.1.2 2.1.3	Recognise the onset of fatigue in self and in others.	1 1	<i>Optional content: ICAO/FATCA/CANSO's Fatigue Management Guide for Air Traffic Service Providers Skybrary Human Behaviour:EUROCONTROL Fatigue and sleep management</i>	ALL
Merged objectives related to recognition of the onset of fatigue in self and in others.				
APP HUM 2.1.3 2.1.5	Describe appropriate action when recognising fatigue.	2 2	<i>Optional content: Skybrary Human Behaviour, EUROCONTROL Fatigue and sleep management</i>	ALL
Improved content and renumbering: skybrari and Eurocontrol booklet added to optional content.				
APP HUM <del>2.1.4</del> 2.1.4 2.1.2	<del>Recognise the onset of fatigue in others.</del>	1 4		ALL
The proposal to delete/merge this objective with 2.1.2 above accepted.				
<b>HUM 2.2 Fitness</b>				
APP HUM 2.2.1 HUM 2.2.1 HUMB 2.1.3	<del>Recognise signs of lack of personal fitness.</del>	1 4		ALL
The proposal to move this objective to Basic training accepted. Now moved and well covered in the Basic subtopic "Fitness for duty" lack of personal fitness.				
APP HUM <del>2.2.2</del> 2.2.2 HUMB 2.1.4	<del>Describe actions when aware of a lack of personal fitness.</del>	2 2		ALL
The proposal to delete this objective accepted - now well covered in the new Basic topic 2 HEALTH AND WELL-BEING				

## HUM 2.2 Stress

APP HUM	Recognise the effects of stress on	1	Stress and its symptoms in self and in others	ALL
2.2.1	performance.	1		
4.1.1			Optional content: Regulation (EU) 2017/373	
2.2.1				

The proposal to move this stress related subtopic and associated objective to new (this) location accepted.

APP HUM	Describe appropriate action when	2		ALL
2.2.2	recognising stress.	2		
2.2.2				

The proposal to introduce new stress objective for consistency with the similar "fatigue" objective accepted.

APP HUM	Act to reduce stress.	3	<del>The effect of personality in coping with stress, the benefits of active stress management</del>	ALL
2.2.3		3		
4.2.1				
2.2.3				

The proposal to delete the content that limits the implementation of the objective accepted but another to introduce the Regulation (EU) 2017/373 in the content was not as provisions of this Regulation are more about ATS providers responsibilities with respect to stress. The whole topic and associated objectives are more related to the learners and how they should cope with it.

APP HUM	Respond to stressful situation by	3	<del>Optional content: the benefits of offering, accepting and asking for help in stressful situations</del>	ALL
2.2.4	offering, asking or accepting assistance.	3		
4.2.2				
2.2.4				

The proposal to delete the content that was the same as objective's corpus accepted

APP HUM	Recognise the effect of <del>shocking and</del>	1	Self and others, abnormal situations,	ALL
2.2.5	stressful events.	1	<del>Critical Incident Stress Management (CISM)</del>	
4.2.3				
2.2.5				

Improved wording both for the objective and the content: CISM removed from mandatory content - more applicable in the Unit and/or Continuation training.

## HUM 3 THREAT AND ERROR MANAGEMENT

### HUM 3.1 Threat and error management framework

APP HUM	Explain the importance of <b>threat and</b>	2	Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practices	ALL
3.1.1	error management.	2		
5.1.7				
3.1.1				

The proposal to introduce New TEM topic/subtopic and associated objective accepted. TEM was missing in the Initial training and is required by ICAO Annex 1.

APP HUM 3.1.2	Explain the threat and error management framework.	2 2	Threats, errors, undesired states, countermeasures	ALL
<i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>				
As above...				
APP HUM 3.1.3	Differentiate threats in ATC.	2 2	Internal, external, airborne, environmental	ALL
<i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>				
As above...				
APP HUM 3.1.4	Differentiate errors in ATC.	2 2	Equipment, procedural, communication	ALL
<i>Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences</i>				
As above...				
APP HUM 3.1.5	Differentiate undesired states.	2 2	On the ground, airborne	ALL
<i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>				
As above...				
APP HUM 3.1.6	Analyse examples of threat and error management in ATC.	4 4	Case studies	ALL
<i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>				
As above...				

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## HUM 3.2 Applied threat and error management

APP HUM Manage threats.  
3.2.1

4 Detect and respond  
4 *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*

ALL

The proposal to move this objective to more appropriate new subtopic on conflict management accepted.

APP HUM Manage errors.  
3.2.2

4 Detect and respond  
4 *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*

ALL

As above...

APP HUM Manage undesired states.  
3.2.3

4 Detect and respond  
4 *Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control*

ALL

As above...

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## HUM 3 SOCIAL AND ORGANISATIONAL FACTORS

### HUM 3.1 Team resource management (TRM)

APP HUM State the relevance of TRM:  
3.1.1

1 *Optional content: TRM course, EUROCONTROL Guidelines for the development of TRM training*  
4

ALL

HUM 3.1.1

HUMUC

The proposal to move the introduction to TRM to later stages of ATCO training (Unit-Continuation) accepted. It will be easier for students to understand it in the operational environment and this topic is explicitly mentioned in AMC1 ATCO.D.045(c)(4) Composition of unit training and AMC1 ATCO.D.080(b)(3) Refresher training.

APP HUM State the content of the TRM concept:  
3.1.2

1 *Optional content: team work, human error, team roles, stress, decision making, communication, situational awareness*  
4

ALL

3.1.2

HUMUC

The proposal to move the introduction to TRM to later stages of ATCO training (Unit-Continuation) accepted. It will be easier for students to understand it in the operational environment and this topic is explicitly mentioned in AMC1 ATCO.D.045(c)(4) Composition of unit training and AMC1 ATCO.D.080(b)(3) Refresher training.

## HUM 3.2 Teamwork and team roles

APP HUM 3.2.1	Identify reasons for conflict.	3		ALL
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3.2.1

4.2.1

The proposal to move this objective to more appropriate new subtopic on conflict management accepted.

## HUM 3.3 Responsible behaviour

APP HUM 3.3.1	Consider the factors which influence responsible behaviour.	2	<i>Optional content: situation, team, personal situation and judgement, instance of justification, moral motivation, personality</i>	ALL
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3.3.1

HUMB 3.2.2

Moved from Rating to Basic – more appropriate for Basic training and Topic on Human performance

APP HUM 3.3.2	Apply responsible judgement.	3	Case study and discussion about a dilemma situation	ALL
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The proposal to delete this unclear objective accepted.

## HUM 4 TEAMWORK-STRESS

### HUM 4.1 Benefits of a teamwork Stress

APP HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL
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The proposal to introduce new objective to start with some positive aspect/benefits of team work accepted.

APP HUM 4.1.2	List the ATCO's human performance elements affected by teamwork.	1	Situational awareness, communication, decision making, threat and error management, workload management	ALL
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The proposal to introduce new objective to start with some positive aspect/benefits of teamwork accepted.

### HUM 4.2 Conflict Stress management

APP HUM 4.2.1	Identify reasons for conflict.	3		ALL
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3.2.1

Proposal to move this objective to more appropriate new subtopic on conflict management accepted.

APP HUM 4.2.2	Describe strategies to cope with human conflicts.	2	<i>Optional content: in your team, in the simulator</i>	ALL
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3.2.3

The proposal to move this conflict related objective to new subtopic "4.2 Conflict management" accepted.

APP HUM 4.2.3	Describe actions to prevent human conflicts.	2 2	<i>Optional content: TRM team roles</i>	ALL
3.2.2				
The proposal to remove optional content accepted - no need for TRM related content here.				
APP HUM 4.2.4	Consider the benefits of Critical Incident Stress Management (CISM).	2 2		ALL
HUM 4.2.4				
HUMUC				
The proposal to move the CISM objective to later stages of ATCO training (Unit-Continuation) accepted. It will be easier for students to understand this safety related concept in the operational environment.				
APP HUM 4.2.5	<del>Explain procedures used following an incident/accident.</del>	2 2	<i>Optional content: CISM, counselling, human element</i>	ALL
4.2.5				
HUMUC				
The proposal to move this incident/accident objective to later stages of ATCO training (Unit-Continuation) accepted. It will be easier for students to understand this safety related procedure in the operational environment.				

## HUM 5 SYSTEMS

### HUM 5.1 Concept of systems in ATM/ANS

APP HUM 5.1.1	Explain the concept of systems.	2 2	People, procedures, equipment, ATM in system terms, simple; complicated and complex systems, system thinking	ALL
HUMB 1.3.3				
HUMR 5.1.1				
Moved from Basic to Rating training for students to better understand the content. Suggestion to include the explanation of three complexity levels accepted.				
APP HUM 5.1.2	Describe how changes in one part of a system may impact the other parts.	2 2		ALL
HUMB 1.3.5	<del>Explain the consequences of a systems failure in ATS.</del>			
HUMR 5.1.2				
Moved from Basic to Rating training for students to better understand the content. Corpus changed for clarity.				
APP HUM 5.1.3	<del>Explain the need for matching human and equipment.</del> Describe the role of the human in the system.	2 2		ALL
HUMB 1.3.6				
HUMR 5.1.3				
Moved from Basic to Rating training for students to better understand the content. Corpus changed for clarity.				



## HUM ~~5~~ HUMAN ERROR

### HUM 5.1 Human error

APP HUM	Explain the relationship between error and safety.	2	Number and combination of errors; proactive versus reactive approach to discovery of error	ALL
5.1.1		2		

HUMB 4.2.4

*Optional content: ICAO Circular 314 = AN/178 Threat and Error Management (TEM) in Air Traffic Control*

The proposal to refresh/delete Topic 5 ERROR and associated Subtopics/objectives accepted - now well covered in either Basic or new "Threat and error management" topic in the Ratings.

APP HUM	Differentiate between the types of error:	2	Slips, lapses, mistakes	ALL
5.1.2		2	<i>Optional content: Circular 314 = AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	

The proposal to delete this objective accepted - Not need for this classification in the Initial training but later in Safety management training.

APP HUM	Describe error-prone conditions:	2	<i>Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences</i>	ALL
5.1.3		2		

The proposal to refresh/delete Topic 5 ERROR and associated Subtopics/objectives accepted - now well covered in the new TEM topic.

APP HUM	Collect examples of different error types; their causes and consequences in ATC:	3	<i>Optional content: ICAO Circular 314 = AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
5.1.4		3		

As above.

APP HUM	Explain how to detect errors to compensate for them:	2	STCA, MSAW, individual and collective strategy	ALL
5.1.5		2		

*Optional content: ICAO Circular 314 = AN/178 Threat and Error Management (TEM) in Air Traffic Control*

As above.

APP HUM	Execute corrective actions:	3	Error compensation	ALL
5.1.6		3	<i>Optional content: ICAO Circular 314 = AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	

As above.

APP HUM 5.1.7	Explain the importance of error management.	2 2	<del>Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practises</del>	ALL
5.1.7				
3.1.1				
Modified by adding the notion of "threat" and moved to new TEM Topic as 3.1.1				
APP HUM 5.1.8	Describe the impact on an ATCO following an occurrence/incident.	2 2	<del>Optional content: reporting, SMS, investigation, CISM</del>	ALL
5.1.8				
HUMUC				
The proposal to delete this objective for consideration/inclusion in the later stages of ATCO training (Unit-Continuation-Development) accepted.				
<b>HUM 5.2 Violation of rules</b>				
APP HUM 5.2.1	Explain the causes and dangers of violation of rules becoming accepted as a practice.	2 2	<del>Optional content: ICAO Circular 314 = AN/178 Threat and Error Management (TEM) in Air Traffic Control</del>	ALL
5.2.1				
HUMUC				
The proposal to move this violation of rules objective to later stages of ATCO training (Unit-Continuation) accepted. It will be easier for students to understand it in the operational environment.				
<b>HUM 6 COMMUNICATION COLLABORATIVE WORK</b>				
<b>HUM 6.1 Effective communication</b>				
APP HUM 6.1.1	Explain effective communication in ATC operations.	2 2	ICAO Doc 9868	ALL
6.1.1				
The proposal to introduce new communication related objective to explain the importance of effective communication in ATC environment (from human performance point of view) accepted.				
APP HUM <del>6.1.1</del>	<del>Use communication effectively in ATC.</del>	3 3		ALL
ATM 2.1.4				
The proposal to delete this objective as similar (at level 4) already exists in ATM accepted.				
APP HUM 6.1.2	Explain key strategies used to enable open communication.	2 2	<del>Optional content: Active listening, active speaking, assertiveness, honesty, relevance, facts, neutrality</del>	ALL
The proposal to introduce new communication related objective to stress the importance of open communication accepted.				

APP HUM 6.1.2	Analyse examples of pilot and controller communication for effectiveness.	4 4		ALL
HUM 6.1.2				
ATM 2.1.5				
The proposal of merging and moving some practical related communication objectives to ATM subject accepted.				
APP HUM 6.1.3 6.4.1	Describe parameters affecting controller's communication competency. /pilot cooperation	2 2	Workload, mutual knowledge, controller versus pilot mental picture, distractions, sound, human conflicts  Optional content: Communication between and in the team(s), in the simulator, with the pilots, instructors, coordination partners <del>workload, mutual knowledge, controller vs pilot mental picture</del>	ALL
Improved wording, content and objective moved to Effective communication to broaden the scope from pilot controller cooperation only to overall ATCO's communication competence.				
<b>HUM 6.2 Effective feedback</b>				
APP HUM 6.2.1	Define feedback.	1 1		ALL
HUM 6.2.1				
The proposal to introduce new communication related subtopic and associated objectives to stress the importance of Effective feedback accepted.				
APP HUM 6.2.2	Explain the purpose of receiving and giving feedback and its effect on performance.	2 2		ALL
HUM 6.2.2				
As above.				
APP HUM 6.2.3	Consider the impact of communication styles on feedback, and resolving conflicts.	2 2		ALL
HUM 6.2.3				
As above.				
APP HUM 6.2.4	Integrate feedback into performance.	4 4		ALL
HUM 6.2.4				
As above.				

## HUM 6.2 Collaborative work within the same area of responsibility

APP HUM 6.2.1	List communication means between controllers in charge of the same area of responsibility (sector or tower).	1 4	<del>Optional content: electronic, written, verbal and non-verbal communication</del>	ALL
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HUM 6.2.1

ATM 2.1.1

The proposal to move this communication objective to EQPS subject modified and some communication objectives moved/merged to ATM communication related topic.

APP HUM 6.2.2	Explain consequences of the use of communication means on effectiveness.	2 2	<del>Optional content: strips legibility and encoding, labels designation, feedback</del>	ALL
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6.2.2

The proposal of merging some communication (collaborative work) objectives in the appropriate ATM topic accepted. This objective is already well covered there.

APP HUM 6.2.3	List possible actions to provide a safe position handover.	1 1	<del>Optional content: rigour, preparation, overlap time</del>	ALL
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HUM 6.2.3

ATM 9.3.3

The proposal of moving and merging some communication (handover/takeover) objectives in the appropriate ATM topic accepted.

APP HUM 6.2.4	Explain consequences of a missed position handover process.	2 2		ALL
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HUM 6.2.4

ATM 9.3.4

The proposal of moving and merging some communication (handover/takeover) objectives in the appropriate ATM topic accepted.

## HUM 6.3 Collaborative work between different areas of responsibility

APP HUM 6.3.1	List factors and means for an effective coordination between sectors and/or tower positions.	1 4	<del>Optional content: other sectors constraints, electronic coordination tools</del>	ALL
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The proposal to delete this communication (collaborative work) objective accepted. This objective is already well covered in ATMB 5.3 "Means of coordination" subtopic and at a higher levels (2 and 3)

## HUM 6.4 Controller/pilot cooperation

APP HUM 6.4.1	Describe parameters affecting controller /pilot cooperation	2 2		ALL
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6.4.1

6.1.3

~~Optional content: workload, mutual knowledge, controller vs pilot mental picture~~

The objective (with the modified wording and content) moved to Effective communication to broaden the scope from pilot controller cooperation only to overall ATCO's communication competence.

## Subject 8 : EQUIPMENT AND SYSTEMS

The subject objective is:

Learners shall integrate knowledge and understanding of the basic working principles of equipment and systems and comply with the equipment and system degradation procedures in the provision of ATS.

### EQPS 1 VOICE COMMUNICATIONS

#### EQPS 1.1 Radio communications

APP EQPS 1.1.1	Operate two-way communication equipment.	3 3	Transmit/receive switches, procedures <i>Optional content: frequency selection, standby equipment</i>	ALL
APP EQPS 1.1.2	Identify indications of operational status of radio equipment.	3 3	<i>Optional content: indicator lights, serviceability displays, selector/frequency displays</i>	ALL
APP EQPS 1.1.3	Consider radio range.	2 2	<i>Optional content: transfer to another frequency, apparent radio failure, failure to establish radio contact, frequency protection range</i>	APP ACP APS ACS

#### EQPS 1.2 Other voice communications

APP EQPS 1.2.1	Operate landline communications.	3 3	<i>Optional content: telephone, interphone and intercom equipment</i>	ALL
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### EQPS 2 AUTOMATION IN ATS

#### EQPS 2.1 Aeronautical fixed telecommunication network (AFTN)

APP EQPS 2.1.1	Decode AFTN messages.	3 3	<i>Optional content: movement and control messages, NOTAM, SNOWTAM, BIRDTAM, etc.</i>	ALL
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#### EQPS 2.2 Automatic data interchange

APP EQPS 2.2.1	Use automatic data transfer equipment where available.	3 3	<i>Optional content: automated information and coordination, OLDI</i>	APP ACP
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### EQPS 3 CONTROLLER WORKING POSITION

#### EQPS 3.1 Operation and monitoring of equipment

APP EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3 3	Notification procedures, responsibilities	ALL
APP EQPS 3.1.2	Operate the equipment of the controller working position.	3 3	<i>Optional content: situation displays, flight progress board, flight data display, radio, telephone, maps and charts, strip-printer, clock, information systems, UDF/VDF</i>	ALL

APP EQPS	Operate available equipment in abnormal and emergency situations.	3		ALL
3.1.3		3		
<b>EQPS 3.2 Situation displays and information systems</b>				
APP EQPS	Use situation displays.	3		ALL
3.2.1		3		
APP EQPS	Check availability of information.	3		ALL
3.2.2		3		
APP EQPS	Obtain information from equipment.	3		APP ACP APS ACS
3.2.3		3		
<b>EQPS 3.3 Flight data systems</b>				
APP EQPS	Use the flight data information at controller working position.	3		ALL
3.3.1		3		
<b>EQPS 4 FUTURE EQUIPMENT</b>				
<b>EQPS 4.1 New developments</b>				
APP EQPS	Recognise future developments.	1	New advanced systems	ALL
4.1.1		1	Optional content: European ATM master plan, European plan for aviation safety	
The proposal to clarify this objective accepted by adding relevant reference to optional content.				
<b>EQPS 5 EQUIPMENT AND SYSTEMS LIMITATIONS AND DEGRADATION</b>				
<b>EQPS 5.1 Reaction to limitations</b>				
APP EQPS	Take account of the limitations of equipment and systems.	2		ALL
5.1.1		2		
The proposal to move this objective to ATM or ABES not accepted - The location of the objectives in the Rating training is almost irrelevant. They all need to be covered and are dependent on the prerequisites (relation with other subjects/topics...). This level 2 objective is introduction to the following (detailed) level 3 objective related to standard ATC equipment degradation.				
APP EQPS	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL
5.1.2		3		
<b>EQPS 5.2 Communication equipment degradation</b>				
APP EQPS	Identify that communication equipment has degraded.	3	Optional content: ground-air and landline communications	APP ACP APS ACS
5.2.1		3		

APP EQPS 5.2.2	Apply contingency procedures in the event of communication equipment degradation.	3 3	<i>Optional content: total or partial degradation of ground-air and landline communications, alternative methods of transferring data</i>	ALL
<b>EQPS 5.3 Navigational equipment degradation</b>				
APP EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3 3	<i>Optional content: <del>VOR</del>, navigational aids</i>	ALL
<div> <p>The proposal to add GNSS to content modified. The generic term "Navigational aids" includes the proposed GNSS as well; VOR also removed from optional content (included in the generic term of nav aids)</p> </div>				
APP EQPS 5.3.2	Apply contingency procedures in the event of a navigational equipment degradation.	3 3	<i>Optional content: vertical separation, information to aircraft, navigational assistance, seeking assistance from adjacent units</i>	ALL

## Subject 9 : PROFESSIONAL ENVIRONMENT

The subject objective is:

Learners shall identify the need for close cooperation with other parties concerning ATM operations and appreciate aspects of environmental protection.

### PEN 1 FAMILIARISATION

#### PEN 1.1 Study visit to an approach control unit

APP PEN 1.1.1	Appreciate the functions and provision of an operational approach control service.	3 3	Study visit to an approach control unit	APP APS
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Editorial correction of the subtopic and associated objective's corpus.

### PEN 2 AIRSPACE USERS

#### PEN 2.1 Contributors to civil ATS operations

APP PEN 2.1.1	Characterise civil ATS activities in approach control unit.	2 2	Study visit to an approach control unit <i>Optional content: familiarisation visits to TWR, ACC, AIS, RCC</i>	APP APS
APP PEN 2.1.2	Characterise other parties interfacing with ATS operations.	2 2	<i>Optional content: familiarisation visits to engineering services, firefighting and emergency services, airline operations offices</i>	ALL

#### PEN 2.2 Contributors to military ATS operations

APP PEN 2.2.1	Characterise military ATS activities.	2 2	<i>Optional content: familiarisation visits to TWR, APP, ACC, AIS, RCC, Air Defence Units</i>	ALL
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### PEN 3 CUSTOMER RELATIONS

#### PEN 3.1 Provision of services and user requirements

APP PEN 3.1.1	Appreciate Identify the role of an air navigation ATC as a service provider.	3 3	Regulation (EU) 2018/1139	ALL
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The proposal to clarify this objective accepted - better wording and appropriate regulatory reference added to mandatory content.

APP PEN 3.1.2	Appreciate ATS users' requirements.	3 3		ALL
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### PEN 4 ENVIRONMENTAL PROTECTION

#### PEN 4.1 Environmental protection

APP PEN 4.1.1	Describe the environmental constraints on aerodrome operations.	2 2	<i>Optional content: ICAO Doc 10013 Circular 363 - Operational opportunities to reduce minimise fuel burn use and reduce emissions</i>	ADC APP APS
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The proposal to update optional content to more appropriate document accepted.



APP PEN 4.1.2	Explain the use of Collaborative Environmental Management (CEM) process at airports.	2 2	<i>Optional content: European ATM Master Plan, EUROCONTROL CEM Specification</i>	ADC APP APS
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The proposal for more recent and appropriate optional content accepted.

APP PEN 4.1.3	Appreciate the mitigation techniques used at aerodromes to minimise aviation's impact on the environment.	3 3	<i>Optional content: noise abatement procedures, noise preferential routes, flight efficiency</i>	ADC APP
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The proposal to updated the content accepted + APP objective merged with the ADC by making the corpus and content identical.

## Subject 10: ABNORMAL AND EMERGENCY SITUATIONS

The subject objective is:

Learners shall develop professional attitudes to manage traffic in abnormal and emergency situations.

### ABES 1 ABNORMAL AND EMERGENCY SITUATIONS (ABES)

#### ABES 1.1 Overview of ABES

APP ABES 1.1.1	List common abnormal and emergency situations.	1 1	Optional content: EATM Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ambulance flights, ground based safety nets alerts, airframe failure, unreliable instruments, runway incursion, GNSS failure	ALL
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Improved content due to emerged use and possible failure of GNSS + The proposal to move this objective to ACFT not accepted - The location of the objectives in the Rating training is almost irrelevant. They all need to be covered and are dependent on the prerequisites (relation with other subjects/topics...). Therefore most of them are related to or covered in the SIM and linked with the major subject - ATM, anyway.

APP ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3 3		ALL
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The proposal to move this objective to ACFT not accepted - The location of the objectives in the Rating training is almost irrelevant. They all need to be covered and are dependent on the prerequisites (relation with the other subjects/topics...). Therefore most of them are related to or covered in the simulator and linked with the major subject - ATM, anyway.

APP ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2 2	Optional content: ICAO Doc 4444	APP ACP APS ACS
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APP ABES 1.1.4	Take into account that procedures do not exist for all abnormal and emergency situations.	2 2	Optional content: real life examples	ALL
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The proposal to move this objective to ACFT not accepted - The location of the objectives in the Rating training is almost irrelevant. They all need to be covered and are dependent on the prerequisites (relation with the other subjects/topics...). Therefore, most of them are related to or covered in the simulator and linked with the major subject - ATM, anyway.

APP ABES 1.1.5	Consider how the evolution of a situation may have an impact on safety.	2 2	Optional content: separation, information, coordination	ALL
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### ABES 2 SKILLS IMPROVEMENT

#### ABES 2.1 Communication effectiveness

APP ABES 2.1.1	Ensure effective communication in all circumstances including the case where standard phraseology is not applicable.	4 4	Phraseology, vocabulary, readback, silence instruction	ALL
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APP ABES 2.1.2	Apply change of radiotelephony call sign.	3 3	<del>ICAO Doc 4444</del> ICAO Doc Regulation (EU) No 923/2012 <i>Optional content: ICAO Doc 4444</i>	ALL
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The proposal to reintroduce again this objective (deleted in 2019 - Phase 1) accepted and content updated appropriately.

## ABES 2.2 Avoidance of mental overload

APP ABES 2.2.1	Describe actions to keep control of the situation.	2 2	<i>Optional content: sector splitting, holding, flow management, task delegation</i>	ALL
APP ABES 2.2.2	Organise priority of actions.	4 4		ALL
APP ABES 2.2.3	Ensure effective circulation of information.	4 4	<i>Optional content: between executive and planner/coordinator, with the supervisor, between sectors, between ACC, APP and TWR , with ground staff, etc.</i>	ALL
APP ABES 2.2.4	Consider asking for help.	2 2		ALL

## ABES 2.3 Air / ground cooperation

APP ABES 2.3.1	Collect appropriate information relevant to the situation.	3 3		ALL
APP ABES 2.3.2	Assist the pilot.	3 3	Pilot workload <i>Optional content: instructions, information, support, human factors, etc.</i>	ALL

## ABES 3 PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS

### ABES 3.1 Application of procedures for ABES

APP ABES 3.1.1	Apply the procedures for given abnormal and emergency situations.	3 3	<i>Optional content: EATM Guidelines for Controller Training in the Handling of Unusual/Emergency Situations, ambulance flights, ground based safety nets alerts, airframe failure</i>	ALL
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The proposal to add GNSS failure to content due to emerged use and possible failure of GNSS not accepted for this practical objective - No procedures published therefore difficult to implement in Initial training.

## ABES 3.2 Radio failure

APP ABES 3.2.1	Describe the procedures followed by a pilot when he/she experiences complete or partial radio failure.	2	Regulation (EU) No 923/2012	ALL
		2	Optional content: ICAO Doc 4444, military procedures, <a href="#">simulator operation procedures</a>	

The proposal to add national procedures related to the pilots' comm. failure to the content of ABES objective accepted by adding simulator operation procedures.

APP ABES 3.2.2	Apply the procedures to be followed when a pilot experiences complete or partial radio failure.	3	Regulation (EU) No 923/2012	ALL
		3	Optional content: prolonged loss of communication	

The proposal to add SERA Regulation (EU) No 923/2012 to mandatory content accepted. (SERA.14087 Use of relay communication technique) includes the ATC action after the comm. failure.)

## ABES 3.3 Unlawful interference and aircraft bomb threat

APP ABES 3.3.1	Apply ATC procedures associated with unlawful interference and aircraft bomb threat.	3	Regulation (EU) No 923/2012	ALL
		3	Optional content: <a href="#">simulator operation procedures</a>	

The proposal to add ICAO Annexes (14 and 17) modified by adding the simulator operation procedures to optional content in addition to SERA reference in mandatory content.

## ABES 3.4 Strayed or unidentified aircraft

APP ABES 3.4.1	Apply the procedures in the case of strayed aircraft.	3	Regulation (EU) No 923/2012	ALL
		3	Optional content: inside controlled airspace, outside controlled airspace	

APP ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	Regulation (EU) No 923/2012	ALL
		3		

## ABES 3.5 Diversions

APP ABES 3.5.1	Provide navigational assistance to diverting emergency aircraft.	4	Track/heading, distance, other navigational assistance	APP ACP APS ACS
		4	Optional content: nearest most suitable aerodrome	

## ABES 3.6 Interception of civil aircraft

APP ABES 3.6.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012	ALL
		2		

New subtopic an associated objective to cover important safety and regulatory requirement that was missing in the IT.

## Subject 11: AERODROMES

The subject objective is:

Learners shall recognise and understand the design and layout of aerodromes.

AGA 1 AERODROME DATA, LAYOUT AND COORDINATION				
AGA 1.1 Definitions				
APP AGA 1.1.1	Define aerodrome data.	1 1	Regulation (EU) No 139/2014 <i>Optional content: aerodrome elevation, reference point, apron, movement area, manoeuvring area, hot spot</i>	ADC APP APS
AGA 1.2 Coordination				
APP AGA 1.2.1	Identify the information that has to be passed between Air Traffic Services (ATS) and the airport authority.	3 3	Airport conditions, fire/rescue category, condition of ground equipment and NAVAIDs, AIRAC, Regulation (EU) No 139/2014	APP APS ADC
AGA 2 MOVEMENT AREA				
AGA 2.1 Movement area				
APP AGA 2.1.1	Describe movement area.	2 2	Regulation (EU) No 139/2014	ADC APP APS
APP AGA 2.1.2	Describe the marking of obstacles and unusable or unserviceable areas.	2 2	Flags, signs on pavement, lights	ADC APP APS
APP AGA 2.1.3	Identify the information on conditions of the movement area that have to be passed to aircraft.	3 3	Essential information on aerodrome conditions	ADC APP APS
AGA 2.2 Manoeuvring area				
APP AGA 2.2.1	Describe manoeuvring area.	2 2	Regulation (EU) No 139/2014	ADC APP APS
APP AGA 2.2.2	Describe taxiway.	2 2		ADC APP APS
APP AGA 2.2.3	Describe the daylight marking on taxiways.	2 2		ADC APP APS
APP AGA 2.2.4	Describe taxiway lighting.	2 2		ADC APP APS

## AGA 2.3 Runways

APP AGA 2.3.1	Describe runway.	2 2	Runway, runway surface, runway strip, shoulder, runway end safety areas, clearways, stopways	ADC APP APS
APP AGA 2.3.2	Describe instrument runway.	2 2	Regulation (EU) No 139/2014	ADC APP APS
APP AGA 2.3.3	Describe non-instrument runway.	2 2	Regulation (EU) No 139/2014	ADC APP APS
APP AGA 2.3.4	Explain declared distances.	2 2	TORA, TODA, ASDA, LDA	ADC APP APS
APP AGA 2.3.5	Explain the differences between ACN and PCN.	2 2	Strength of pavements	ADC APP APS
APP AGA 2.3.6	Describe the daylight markings on runways.	2 2	<i>Optional content: runway designator, centre line, threshold, aiming point, fixed distance, touchdown zone, side strip, colour</i>	ADC APP APS
APP AGA 2.3.7	Describe runway lights.	2 2	<i>Optional content: colour, centre line, intensity, edge, touchdown zone, threshold, barrettes</i>	ADC APP APS
APP AGA 2.3.8	Explain the functions of visual landing aids.	2 2	<i>Optional content: AVASI, VASI, PAPI</i>	ADC APP APS
APP AGA 2.3.9	Describe the approach lighting systems.	2 2	Centre line, cross bars, stroboscopic lights, colours, intensity and brightness	ADC APP APS
APP AGA 2.3.10	Characterise the effect of water/ice on runways.	2 2		ADC APP APS
APP AGA 2.3.11	Explain braking <b>action performance and methods of reporting it.</b>	2 2	<b>Braking action coefficient</b>	ADC APP APS
The proposal to update corpus and remove the content accepted to align with new ICAO Global Reporting Format (GRF) terminology with regard to braking performance.				
APP AGA 2.3.12	Explain the effect of runway visual range on aerodrome operation.	2 2		ADC APP APS

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## **AGA 3 OBSTACLES**

### **AGA 3.1 Obstacle-free airspace around aerodromes**

APP AGA	Explain the necessity for establishing	2		ADC
3.1.1	and maintaining an obstacle-free	2		APP
	airspace around aerodromes.			APS

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## **AGA 4 MISCELLANEOUS EQUIPMENT**

### **AGA 4.1 Location**

APP AGA	Explain the location of different	2		ADC
4.1.1	aerodrome ground equipment.	2	<i>Optional content: LLZ, GP, VDF, radio communication or ATS surveillance systems sensors, stopbars, AVASI, VASI, PAPI</i>	APP
				APS

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