



European Union Aviation Safety Agency

# Notice of Proposed Amendment 2021-08(G)

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)(vi) Composition of initial training

### AREA CONTROL SURVEILLANCE RATING (ACS) TRAINING - ~~SUBJECT OBJECTIVES AND~~ TRAINING OBJECTIVES

This document has been provided to help reviewers make a comparison between the 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)(vi) Composition of initial training) and the amendments proposed by the ATCO CCCT 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.

### AREA CONTROL SURVEILLANCE RATING (ACS) 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 Area Control Surveillance Rating (ACS) should contain the following ~~subject objectives and~~ training objectives that are associated with the subjects, topics and subtopics contained in Appendix ~~8-7 to of~~ Annex I to Commission Regulation (EU) No 2015/340 — Area Control Surveillance Rating (ACS).

(c) Subjects, topics and subtopics from Appendix ~~8-7 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

ACS INTR 1.1.1	Explain the aims and main objectives of the course.	2 2		ALL
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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).  
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.

#### INTR 1.2 Course administration

ACS INTR 1.2.1	State how the course is administered.	1 1		ALL
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#### INTR 1.3 Study material and training documentation

ACS INTR 1.3.1	Use appropriate documents and their sources for course studies.	3 3	<i>Optional content: training documentation, library, CBT library, web, learning management server</i>	ALL
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ACS INTR 1.3.2	Integrate appropriate information into course studies.	4 4	<b>Training documentation</b> <i>Optional content: supplementary information, library</i>	ALL
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### INTR 2 INTRODUCTION TO THE ATC TRAINING COURSE

#### INTR 2.1 Course content and organisation

ACS INTR 2.1.1	State the different training methods used during the course.	1 1	<b>Theoretical training, practical training, self-study, types of training events</b>	ALL
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ACS INTR 2.1.2	State the subjects covered by the course and their purpose.	1 1		ALL
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ACS INTR 2.1.3	Describe the organisation of theoretical training.	2 2	<i>Optional content: course programme</i>	ALL
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ACS INTR 2.1.4	Describe the organisation of practical training.	2 2	Optional content: PTP, simulation, briefing, debriefing, course programme	ALL
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### INTR 2.2 Training ethos

ACS INTR 2.2.1	Recognise the feedback mechanisms available.	1 1	Training progress, assessment, briefing, debriefing, learner/instructor feedback, instructor/instructor feedback	ALL
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### INTR 2.3 Assessment process

ACS INTR 2.3.1	Describe the assessment process.	2 2		ALL
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## 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

ACS LAW 1.1.1	Appreciate the conditions which shall be met to issue an Area Control Surveillance rating.	3 3	Regulation (EU) 2015/340 <del>on ATCO Licensing</del>	ACS
ACS LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2 2		ALL
ACS 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

ACS LAW 2.1.1	Describe the functions of, and processes for, reporting.	2 2	Reporting culture, mandatory and voluntary occurrence reporting forms <del>air traffic incident report</del> , Regulation (EU) No 376/2014, Regulation (EU) No 2015/1018	ALL
2.1.2				
2.1.1				

*Optional content: breach of regulations, watchbook/logbook, records, voluntary reporting*

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)

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

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

ACS LAW	Use forms for reporting.	3	Regulation (EU) No 376/2014, mandatory and voluntary occurrence reporting forms <b>air-traffic incident reporting form(s)</b>	ALL
2.1.2		3		
2.1.3				
2.1.2			<i>Optional content: routine air reports, breach of regulations, watchbook/logbook, records</i>	

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

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

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

#### LAW 3.1 Feedback process

ACS LAW	State the importance of controller contribution to the feedback process.	1	<i>Optional content: voluntary reporting</i>	ALL
3.1.1		1		
<p>The proposal to expend the relevance of safety management to ATS (not only ATC) accepted - topic title modified accordingly.</p>				
ACS LAW	Describe how reported occurrences are analysed.	2	<i>Optional content: Regulation (EU) No 376/2014, local procedures</i>	ALL
3.1.2		2		

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ACS LAW 3.1.3	Name the means used to disseminate recommendations.	1 1	Optional content: safety letters, safety boards web pages	ALL
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ACS 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
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### LAW 3.2 Safety investigation

ACS LAW 3.2.1	Describe role and objectives mission of safety investigation in the improvement of safety.	2 2		ALL
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Improved wording but proposal to add ICAO Annex 13 to content not accepted - no need for any (regulatory) reference.

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ACS LAW 3.2.2	<del>Define working methods of Safety Investigation.</del>	1 1		ALL
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Objective deleted - partially covered in the objective 3.2.1 and working methods not important for ATCOs.

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## 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

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

ACS ATM	Provide area 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	ACP ACS
1.1.2		4		

More appropriate wording for simulation environment and referenced documents.

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

ACS 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

ACS ATM	Use an ATS surveillance system in the provision of FIS.	3	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, <del>ICAO Doc 4444</del> , information to identified aircraft concerning: traffic, navigation	APS ACS
1.2.2		3	Optional content: weather	

Regulatory updated - Regulation (EU) 2017/373 - Operational requirements transposed within ATS.TR.105(a) AMC1 ATS.TR.205(c).

ACS 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	APS ACS APP ACP ACS
1.2.3		3		

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

ACS ATM 1.2.4	Appreciate the use of ATIS in the provision of flight information service.	3 3	Regulation (EU) No 923/2012	ADC APS ACS APP ACP
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Objective introduced for consistency between the ratings.

### ATM 1.3 Alerting service (ALRS)

ACS ATM 1.3.1	Provide ALRS.	4 4	<del>ICAO Doc 4444</del> Regulation (EU) 2017/373, Regulation (EU) No 923/2012  <i>Optional content: national documents</i>	ALL
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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).

ACS 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
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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.

ACS ATM 1.3.3	Use an ATS surveillance system in the provision of ALRS.	3 3		APS ACS
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### ATM 1.4 ATS system capacity and air traffic flow management

ACS 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
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The proposal to reduce the action verb level - not accepted. "Appreciate" in most of the cases does not require simulation and ACS environment is affected by ATFCM as well.

ACS ATM 1.4.2	Apply flow management procedures in the provision of ATC	3 3	<i>Optional content: EUROCONTROL ATFCM Users Manual</i>	ACP ACS
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ACS 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
ACS 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 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
ACS ATM 1.4.6	Organise traffic flows and patterns to take account of ATS surveillance system capability.	4 4		APS ACS

## ATM 1.5 Airspace management (ASM)

ACS 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
ACS ATM 1.5.2	Organise traffic to take account of ASM.	4 4	Real-time activation, deactivation or reallocation of airspace	APS ACS

## ATM 2 COMMUNICATION

### ATM 2.1 Effective communication

ACS ATM 2.1.1	List communication means between controllers. <del>in charge of the same area of responsibility (sector or tower).</del>	1 1	<i>Optional content: electronic, written, verbal and non-verbal communication</i>	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.

ACS ATM 2.1.2	Select the most suitable means of communication given the situation.	5		ALL
2.1.2		5		

Important practical objective introduced in ATM communications .

ACS ATM 2.1.3	Use approved phraseology.	3	Regulation (EU) No 923/2012	ALL
2.1.1		3	Optional content: <i>published national/local language phraseology</i>	

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)

ACS ATM 2.1.4	Ensure effective communication.	4	Use of plain language when required, communication within the sector/working position, between the sectors/WPs /ATC Units	ALL
2.1.2		4	Communication techniques, readback/verification of readback	

Improved content

ACS ATM 2.1.5	Analyse examples of pilot and controller communication for effectiveness.	4	Optional content: <i>real life recordings, situation in the simulator</i>	ALL
HUM 6.1.2		4		

Merging of communication objectives in the ATM and optional content added to clarify the requirement.

### ATM 3 ATC CLEARANCES AND ATC INSTRUCTIONS

#### ATM 3.1 ATC clearances

ACS ATM 3.1.1	Issue appropriate ATC clearances.	3	Regulation (EU) No 923/2012	ALL
		3	Optional content: <i>ICAO Doc 4444, national documents</i>	

ACS ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4		ALL
		4		

ACS ATM 3.1.3	Ensure the agreed course of action is carried out.	4		ALL
		4		

## ATM 3.2 ATC instructions

ACS 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
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Regulatory updated - Regulation (EU) 2017/373

ACS ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4 4		ALL
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ACS ATM 3.2.3	Ensure the agreed course of action is carried out.	4 4		ALL
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## ATM 4 COORDINATION

### ATM 4.1 Necessity for coordination

ACS ATM 4.1.1	Identify the need for coordination.	3 3		ALL
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### ATM 4.2 Tools and methods for coordination

ACS 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
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### ATM 4.3 Coordination procedures

ACS 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
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Regulatory updated - Regulation (EU) 2017/373 - Transposed within ATS.TR.230.a and associated AMCs/GMs

ACS 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
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ACS ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5 5		ALL
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ACS ATM 4.3.4	Ensure the agreed course of action is carried out.	4 4		ALL
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ACS 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
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Regulatory update - Regulation (EU) 2017/373 with ICAO content transposed in the AMCs and GM to Part.ATS. TR.230.a, though not all, and, therefore ICAO Doc 4444 moved to optional content.

ACS 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
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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

ACS ATM 5.1.1	Allocate levels according to altimetry data.	4 4	Regulation (EU) No 923/2012	ALL
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ACS 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
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### ATM 5.2 Terrain clearance

ACS ATM 5.2.1	Provide planning, coordination and control actions appropriate to the rules for minimum <del>safe</del> usable levels and terrain clearance.	4 4	<i>Optional content: minimum vectoring altitude, terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude</i>	APS ACS
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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

ACS 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, RVSM, non-RVSM aircraft, holding pattern	ACP ACS
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ACS 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
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ACS 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
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ACS ATM 6.1.4	Provide vertical separation in a surveillance environment.	4 4	Pressure altitude-derived information, pilot level reports  <i>Optional content: into/out of ATS surveillance system coverage</i>	APS ACS
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**ATM 6.2 Longitudinal separation in a surveillance environment**

ACS ATM 6.2.1	Provide longitudinal separation in a surveillance environment.	4 4	Successive departures, successive arrivals, overflights, speed control, Mach number techniques, silent transfer, ICAO Doc 4444	ACS
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**ATM 6.3 Wake turbulence distance-based separation**

ACS ATM 6.3.1	Provide distance-based wake turbulence separation.	4 4	Regulation (EU) 2017/373 <del>ICAO Doc 4444</del> , Regulation (EU) No 923/2012  <i>Optional content: EASA SIB 2017-10 'En-route Wake Turbulence Encounters', national documents</i>	APS ACS
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Regulatory updated - Regulation (EU) 2017/373  
Transposed within Annex IV 'Part-ATS' as ATS.TR.220. + associated AMCs and GMs. (AMC6 ATS.TR.220.)

**ATM 6.4 Separation based on ATS surveillance systems**

ACS ATM 6.4.1	Describe how separation based on ATS surveillance systems is applied.	2 2	Regulation (EU) 2017/373 <del>ICAO Doc 4444</del> ,	APS ACS
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Regulatory update - Regulation (EU) 2017/373; Transposed in AMC1 ATS.TR.155(a).

ACS ATM 6.4.2	Provide horizontal separation.	4 4	<del>Regulation (EU) 2017/373 ICAO Doc 4444, ICAO Doc 7030, local operation manuals, holding,</del> <i>Optional content: local/simulator operation manuals, holding</i>	APS ACS
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Regulatory updated - Regulation (EU) 2017/373 -Transposed in AMC1 ATS.TR.155(a). and AMC1 ATS. TR.210(c)(2); GM1 to AMC1 ATS.TR.210(c)(2) + modified content

ACS ATM 6.4.3	Provide horizontal separation by vectoring in a variety of situations.	4 4	<i>Optional content: transit, meteorological phenomena, vectoring for approach, departure vs transit vs arrival</i>	APS ACS
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ACS ATM 6.4.4	Ensure horizontal or vertical separation from airspace boundaries.	4 4	Adjacent sectors, restricted, prohibited and danger areas, TSAs.	APS ACS
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## ATM 7 AIRBORNE ~~COLLISION AVOIDANCE SYSTEMS~~ AND GROUND-BASED SAFETY NETS

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

ACS ATM 7.1.1	Recognise the independence of <del>Differentiate between</del> ACAS advisory thresholds and <del>aerodrome</del> ATC separation standards.	1 1<2	ICAO Doc 9863 <i>Optional content: Skybrary Safety Nets</i>	ALL
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Improved corpus and level reduced from 2 to 1, optional content and objective merged for all ratings.

ACS ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2 2	ICAO Doc 4444 <i>Optional content: ICAO Doc 9863, Skybrary Safety Nets</i>	ALL
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Updated optional content with the relevant ICAO reference document and SKYbrary

ACS ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3 3	ACAS, <del>TAWS</del> <i>Optional content: EUROCONTROL ACAS web page TAWS, Skybrary Safety Nets</i>	APP APS ACP ACS
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Updated content and redundant reference + Subtopic modified to 7.1 Airborne safety nets

### ATM 7.2 Ground-based safety nets

ACS ATM 7.2.1	Describe the controller responsibility during and following safety net warnings.	2 2	<del>Regulation (EU) 2017/373 ICAO Doc 4444</del> <i>Optional content: STCA, MSAW, APW, APM</i>	APS ACS
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Regulatory updated - Regulation (EU) 2017/373 -Transposed in GM2 ATS.TR.155(c)(9) ATS

ACS ATM 7.2.2	Respond to ground-based safety net warnings.	3 3	Optional content: STCA, MSAW, APW, APM	APS ACS
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The proposal to introduce the notion of "available" in this objective not accepted. This change would limit the scope if none of the safety-net warnings from the optional content is available. Aerodrome and APS/ACS environment are not comparable in this case.

## ATM 8 DATA DISPLAY

### ATM 8.1 Data management

ACS 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
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ACS ATM 8.1.2	Analyse pertinent data on data displays.	4 4		ALL
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ACS ATM 8.1.3	Organise pertinent data on data displays.	4 4		ALL
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ACS ATM 8.1.4	Obtain flight plan information.	3 3	CPL, <del>FPL</del> , supplementary information Optional content: FPL, RPL, AFIL, etc.	ALL
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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.

ACS ATM 8.1.5	Use flight plan information.	3 3		ALL
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## ATM 9 OPERATIONAL ENVIRONMENT (SIMULATED)

### ATM 9.1 Integrity of the operational environment

ACS ATM 9.1.1	Obtain information concerning the operational environment.	3 3	Optional content: local/simulator operation manuals, briefing, notices, <del>local orders</del> , current flight plan data/information displays, pilot reports, coordination, verification of information	ALL
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Improved optional content.

ACS 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
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## ATM 9.2 Verification of the currency of operational procedures

ACS ATM 9.2.1	Check all relevant documentation before managing traffic.	3 3	Optional content: briefing, letters of agreement (LOAs), NOTAMs, AICs	ALL
ACS ATM 9.2.2	Manage traffic in accordance with a change to operational procedures.	4 4		APP ACP APS ACS

## ATM 9.3 Handover-takeover

ACS ATM 9.3.1	Transfer information to the relieving controller.	3 3		ALL
ACS ATM 9.3.2	Obtain information from the controller handing over.	3 3		ALL
ACS ATM 9.3.3	List possible actions to provide a safe position handover-takeover.	1 1	Optional content: rigour, preparation, overlap time	ALL

HUM 6.2.3

ATM 9.3.3

Relocation of handover-takeover objective from HUM to the appropriate ATM subtopic.

ACS ATM 9.3.4	Explain consequences of a missed position handover-takeover process.	2 2		ALL
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HUM 6.2.4

ATM 9.3.4

Relocation of handover-takeover objective from HUM to the appropriate ATM subtopic

## ATM 10 PROVISION OF CONTROL SERVICE

### ATM 10.1 Responsibility and processing of information

ACS 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
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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.

ACS ATM 10.1.2	Describe the responsibility in regard to military traffic.	2 2	ICAO Doc 4444 Optional content: ICAO Doc 9554	ALL
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ACS ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2 2	Regulation (EU) No 923/2012	ALL
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ACS <del>ATM</del> <del>10.1.4</del>	<del>Obtain operational information:</del>	<del>3</del> <del>3</del>	<del>ICAO Doc 4444, local operation manuals</del>	APP ACP APS ACS
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Objective deleted - already covered in 9.1.1 (Obtain information concerning the operational environment.)

ACS ATM 10.1.4 10.1.5 10.1.4	Interpret operational information.	5 5		APP ACP APS ACS
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ACS ATM 10.1.5 10.1.6	Organise forwarding of operational information.	4 4	Optional content: including the use of backup procedures	APP ACP APS ACS
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ACS ATM 10.1.6 10.1.7	Integrate operational information into control decisions.	4 4		APP ACP APS ACS
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ACS 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
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### ATM 10.2 ATS surveillance service

ACS ATM 10.2.1	Explain the responsibility for the provision of ATS surveillance service appropriate to ACS rating.	2 2	ICAO Doc 4444, Regulation (EU) No 923/2012, Regulation (EU) 2017/373 <del>ICAO Annex 11, local operation manuals</del> Optional content: local/simulator operation manuals	ACS
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Regulatory update - Regulation (EU) 2017/373 - Transposed in Annex IV 'Part-ATS' as ATS.TR.155 and many associated AMCs and GM related to provision of ATS surveillance services. Nevertheless, the Doc 4444 has been kept as well, as required training content is nicely grouped there. The proposed reference to Requirements for the ATS surveillance systems established in **Regulation 1207/2011** ('laying down requirements for the performance and the interoperability of surveillance for the single European sky") not accepted as is too "technical".; the local/simulator operation manual added to optional content and should be generally applied to similar objectives applicable in the rating training simulation environment

ACS ATM 10.2.2	Explain the functions that may be performed with the use of ATS surveillance system derived information presented on a situation display.	2 2	<del>ICAO Doc 4444</del> , Regulation (EU) 2017/373	APS ACS
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Regulatory update - Regulation (EU) 2017/373 - transposed as AMC1 ATS.TR.155(a) ATS surveillance services

ACS ATM 10.2.3	Provide planning, coordination and control actions appropriate to VFR and IFR traffic in VMC and IMC.	4 4	Regulation (EU) No 923/2012, Regulation (EU) 2017/373, ICAO Doc 4444	ACS ACP
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ACS ATM 10.2.4	Apply the procedures for termination of ATS surveillance service.	3 3	<del>ICAO Doc 4444</del> , Regulation (EU) 2017/373  <i>Optional content: ICAO Doc 4444, transfer of control, termination or interruption of ATS surveillance service</i>	APS ACS
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Regulatory update - Regulation (EU) 2017/373 - Transposed as AMC1 ATS.TR.155(c)(10); GM1 ATS.TR.210 (d). though important Note about transfers between various surveillance sources was not, and, therefore ICAO Doc 4444 moved to optional content.

### ATM 10.3 Traffic management process

ACS ATM 10.3.1	Ensure that situational awareness is maintained.	4 4	Information gathering, scanning, traffic projection	APS ACS
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ACS ATM 10.3.2	Detect conflicts in time for appropriate resolution.	4 4		ALL
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ACS ATM 10.3.3	Identify potential solutions to achieve a safe and effective traffic flow.	3 3		APP ACP APS ACS
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ACS ATM 10.3.4	Evaluate possible outcomes of different planning and control actions.	5 5		ALL
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ACS ATM 10.3.5	Select an appropriate plan in time to achieve safe and effective traffic flow.	5 5		APP ACP APS ACS
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ACS ATM 10.3.6	Ensure an adequate priority of actions.	4 4		ALL
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ACS ATM 10.3.7	Execute selected plan in a timely manner.	3 3		ALL
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ACS ATM 10.3.8	Ensure a safe and efficient outcome is achieved.	4 4	Traffic monitoring, adaptability and follow up	ALL
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### ATM 10.4 Handling traffic

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

ACS ATM 10.4.2	Balance the workload against personal capacity.	5 5	<i>Optional content: re-routing, re-planning, prioritising solutions, denying requests, delegating responsibility for separation</i>	APP ACP APS ACS
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ACS ATM 10.4.3	Define flight path monitoring and vectoring.	1 1	<del>ICAO Doc 4444</del> , Regulation (EU) 2017/373	APS ACS
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Regulatory update - Regulation (EU) 2017/373 transposed within GM1 to Annex IV 'Part-ATS' (monitoring) and Annex 1 Part Definitions (vectoring)

ACS ATM 10.4.4	Explain the requirements for vectoring and termination of vectoring.	2 2	ICAO Doc 4444, Regulation (EU) 2017/373	APS ACS
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Regulatory updated - ICAO Doc 4444 transposed in Regulation (EU) 2017/373 - Annex IV 'Part-ATS' in AMC's ATS.TR.255., AMC1 ATS.TR.155(c)(3) but Doc 4444 kept as not all provisions had been transposed.

ACS ATM 10.4.5	Provide vectoring.	4 4	<del>ICAO Doc 4444</del> , Regulation (EU) No 923/2012, Regulation (EU) 2017/373	APS ACS
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*Optional content: separation, expediting arrivals, departures and/or climb to cruising levels, aircraft leaving the hold, navigation assistance, uncontrolled airspace, etc.*

Regulatory update - Regulation (EU) 2017/373 transposed in AMC1 ATS.TR.155(a). and ATS.TR.235(a)(5) and GM1 ATS.TR.235(a)(5)

ACS ATM 10.4.6	Apply the procedures for termination of vectoring.	3 3	<del>ICAO Doc 4444</del> , Regulation (EU) No 923/2012, Regulation (EU) 2017/373	APS ACS
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Regulatory update - Regulation (EU) 2017/373 - Transposed in AMC's ATS.TR.255., AMC1 ATS.TR.155(c)(3).

## ATM 10.5 Control service with advanced system support

ACS ATM 10.5.1	Appreciate the impact of advanced systems on the provision of area control service.	3 3	<i>Optional content: sequencing systems, automated holding lists, vertical traffic displays, conflict detection and decision making tools, automated information and coordination tools</i>	ACS
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## ATM 11 HOLDING

### ATM 11.1 General holding procedures

ACS ATM 11.1.1	Apply holding procedures.	3 3	ICAO Doc 4444, Regulation (EU) No 923/2012, <a href="#">Regulation (EU) 2017/373</a> , 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.

ACS 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
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### ATM 11.2 Holding aircraft

ACS ATM 11.2.1	Issue expected onward clearance times.	3 3		ACP ACS
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### ATM 11.3 Holding in a surveillance environment

ACS ATM 11.3.1	Organise traffic to separate other aircraft from holding aircraft.	4 4		APS ACS
ACS ATM 11.3.2	Integrate system support, when available.	4 4	<i>Optional content: arrival management system, automated holding lists, vertical traffic displays</i>	APS ACS

## ATM 12 IDENTIFICATION

### ATM 12.1 Establishment of identification

ACS ATM 12.1.1	Appreciate the precautions when establishing identification.	3 3		APS ACS
ACS ATM 12.1.2	Identify aircraft.	3 3	<i>Optional content: PSR, SSR or ADS identification method</i>	APS ACS

The proposal to include all identification methods in the mandatory content not accepted - to demanding for practical rating training.

ACS ATM 12.1.3	Apply procedures in the case of misidentification.	3 3	ICAO Doc 4444, Regulation (EU) 2017/373 <i>Optional content: local/simulator operation manuals</i>	APS ACS
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The proposal to support the application of the objective by adding some content accepted - No explicit misidentification procedure available in the ICAO docs or EU regulations but could be developed based on the available content. Suggestion that use of Mode S makes the application of this objective unnecessary not accepted. Regardless of current Mode S implementation in the OPS environment and as long as we have the other identification methods in Initial training some form of error in identification (misidentification) needs to be covered as well.

### ATM 12.2 Maintenance of identification

ACS ATM 12.2.1	Appreciate the necessity to maintain identification.	3 3		APS ACS
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### ATM 12.3 Loss of identity

ACS ATM 12.3.1	Appreciate when an aircraft identification is lost or in doubt.	3 3	<i>Optional content: out of ATS surveillance system coverage, failure of ATS surveillance system, weather clutter, other clutter, garbling, holding, etc.</i>	APS ACS
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ACS ATM 12.3.2	Apply methods to re-establish identification.	3 3		APS ACS
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ACS ATM 12.3.3	Respond to loss/doubt concerning identification.	3 3	<i>Optional content: procedural separation</i>	APS ACS
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### ATM 12.4 Position Information

ACS ATM 12.4.1	Appreciate the circumstances when position information should be passed to the aircraft.	3 3		APS ACS
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ACS ATM 12.4.2	State the format in which position information can be passed to aircraft.	1 1	<del>ICAO Doc 4444, Regulation (EU) 2017/373</del>	APS ACS
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Regulatory updated - Regulation (EU) 2017/373 - Transposed in AMC1 ATS.TR.155(c)(2)

### ATM 12.5 Transfer of identity

ACS ATM 12.5.1	Apply <del>the</del> methods of transfer of identification.	3 3		APS ACS
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The proposal to modify the wording (removing "the") accepted. The original wording imposes the training of all methods of transfer of identification.

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ACS ATM  
12.5.2

Appreciate the precautions when  
transferring identification.

3  
3

APS  
ACS

The proposal to change and reduce the level of action verb not accepted. "Appreciate" does not, necessarily, require simulation (explained in the action verb list in AMC1 ATCO.D.010(a) Composition of initial training).

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## 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

ACS MET 1.1.1	Appreciate the impact of adverse weather.	3 3	Thunderstorms, icing, jet streams, clear air turbulence (CAT), turbulence, microburst, severe mountain waves, squall lines, volcanic ash  <i>Optional content: solar radiation</i>	ACP ACS
ACS 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
ACS 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

ACS MET 2.1.1	Obtain meteorological information.	3 3	METAR, TAF, SIGMET, AIRMET  <i>Optional content: AIREP/AIREP Special</i>	APP ACP APS ACS
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The proposal to make the optional content mandatory not accepted as current mandatory content is enough for practical application in Initial training.

ACS MET 2.1.2 2.1.2	Decode information from meteorological data displays.	3 3		ALL
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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.

ACS MET 2.1.3 2.1.2 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
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## 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

ACS NAV	Use relevant maps and charts.	3		ALL
1.1.1		3		

The proposal to mandate the Cartography inserts that analyse Conventional and GNSS procedures not accepted. ACCCT TF addressed many similar comments in this review and in most of the cases took position that introducing too specific content (or objective) would limit the scope of the objective in Initial training. In this case we already have two level 3 objectives where suggested specifics would have similar effect. Suggested analyses, if needed, could be introduced in the Unit training.

ACS NAV	Decode symbols and information displayed on aeronautical maps and charts.	3	Enroute and Area charts	ACP ACS
1.1.2		3	Optional content: STAR charts charts	

New "decoding maps and charts" objective added to ACP/ACS NAV for consistency with other ratings (but with area control specific content)

### NAV 2 INSTRUMENT NAVIGATION

#### NAV 2.1 Navigational systems

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

#### NAV 2.2 Navigational assistance

ACS NAV	Evaluate the necessary information to be provided to pilots in need of navigational assistance.	5	Optional content: nearest most suitable aerodrome, track, heading, distance, aerodrome information, any other navigational assistance relevant at the time	APP ACP APS ACS
2.2.1		5		
ACS NAV	Assist pilots with navigation when required.	3	Aircraft observed to be deviating from its known intended route, on pilot's request	APS ACS
2.2.2		3		

## NAV 2.3 PBN applications

ACS NAV 2.3.1	State the navigation applications used in terminal and en-route environments.	1 1	Terminal-RNAV-1 ( <del>≈P-RNAV</del> ); En-route-RNAV-5 ( <del>B-RNAV</del> )  <i>Optional content: A-RNP, EC PBN Implementing Rule, ICAO Doc 9613</i>	ACP ACS
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Part of the mandatory content removed - historical names for RNAV-1 (≈P-RNAV) and RNAV-5 (B-RNAV) not used anymore

ACS NAV 2.3.2	Explain the principles and designation of navigation specifications in use.	2 2	Performance, functionalities, sensors  <i>Optional content: <del>performance, functionality, sensors</del>, aircrew and controller requirements, accuracy requirements, integrity and continuity</i>	APP ACP APS ACS
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Improved content and alignment between the ratings.

ACS NAV 2.3.3	Describe differences in turn performances.	2 2	<i>Optional content: fly by, fly over, FRT, ICAO Doc 4444</i>	ACP ACS
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Important for ATCOs to understand the turn performance and the wide variability in aircraft path around a turn at altitude (see ICAO Doc 4444 Chapter 5 Para 5.4.1.1.4 Note 2)

ACS NAV 2.3.4	State future PBN developments.	1 1	A-RNP, RNP (AR) DEP  <i>Optional content: RNP 3D, VNAV, 4D, TBO</i>	ALL ACP ACS
2.3.3				
2.3.4				

## 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

ACS ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot in the provision of ATS.	4 4		ALL
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The proposal to make some content mandatory not accepted - making some examples explicit and mandatory could be too demanding both for the students and TOs but also limit the implementation to listed mandatory content only.

ACS ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2 2	Optional content: radios (number of), emergency radios	ALL
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ACS ACFT 1.1.3	Explain the operation of on-board surveillance equipment.	2 2	Transponders: equipment Mode A, Mode C, Mode S, ADS capability	ADC APS ACS
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### ACFT 2 AIRCRAFT CATEGORIES

#### ACFT 2.1 Wake turbulence

ACS ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to the succeeding aircraft.	2 2		ALL
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ACS ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence on succeeding aircraft.	3 3		ALL
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### ACFT 3 FACTORS AFFECTING AIRCRAFT PERFORMANCE

#### ACFT 3.1 Climb factors

ACS ACFT 3.1.1	Integrate the influence of factors affecting aircraft during climb.	4 4	Optional content: speed, mass, air density, cabin pressurisation, wind and temperature	APP ACP APS
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#### ACFT 3.2 Cruise factors

ACS ACFT 3.2.1	Integrate the influence of factors affecting aircraft during cruise.	4 4	Level, cruising speed, wind, mass, cabin pressurisation	ACP ACS
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### ACFT 3.3 Descent factors

ACS ACFT 3.3.1	Integrate the influence of factors affecting aircraft during descent.	4 4	<i>Optional content: wind, speed, rate of descent, cabin pressurisation</i>	ACP ACS
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### ACFT 3.4 Economic factors

ACS ACFT 3.4.1	Integrate consideration of economic factors affecting aircraft.	4 4	<i>Optional content: routing, level, speed, rate of climb and rate of descent, approach profile, top of descent</i>	ACP ACS
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ACS ACFT 3.4.2	Provide continuous climb/descent whenever possible.	4 4		ACS APS
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ACS ACFT 3.4.3	Use direct routing where applicable.	3 3		APP ACP APS ACS
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ACS ACFT 3.4.4	Appreciate controller's actions that may contribute to pilot's ability to fly an optimum continuous descent.	3 3	<i>Optional content: level instructions, speed control, vertical speed control, vectoring, distance to touch down information</i>	ACS APS
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Consistency between the ratings.
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### ACFT 3.5 Environmental factors

ACS ACFT 3.5.1	Appreciate the performance restrictions due to environmental considerations.	3 3	<i>Optional content: fuel dumping, minimum flight levels, continuous descent operations</i>	ACP ACS
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## ACFT 4 AIRCRAFT DATA

### ACFT 4.1 Performance data

ACS ACFT 4.1.1	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 4	Performance data under a representative variety of circumstances	APP ACP APS ACS
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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 ~~Cognition~~ **ve** and factors influencing it

ACS HUM 1.1.1	Describe the human information processing model.	2 2	Attention, perception, memory, situational awareness, decision-making, response	ALL
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ACS 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
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#### HUM 1.2 Situational awareness

ACS HUM 1.2.1	Appreciate the effect of human information-processing factors on situational awareness.	3 3	<i>Optional content: workload, knowledge, interpersonal relations, distraction, confidence, experience, fatigue, stress</i>	ALL
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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

ACS HUM 1.3.1 1.1.3 1.3.1	<del>Appreciate</del> <b>Monitor</b> the effect of human information processing factors on decision-making.	3 3	<i>Optional content: workload, stress, interpersonal relations, distraction, confidence</i>	ALL
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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

<del>ACS HUM 2.1.1 2.1.1</del>	<del>State factors that cause fatigue:</del>	1 4	<del>Shift work</del> <i>Optional content: night shifts and rosters; Regulation (EU) 2017/373; ICAO/IFATCA/CANSO's Fatigue Management Guide for Air Traffic Service Providers</i>	ALL
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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.

ACS HUM	Describe the onset of fatigue.	2	Regulation (EU) 2017/373	ALL
2.1.1		2	<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>	
2.1.2				

Improved content and renumbering: Eurocontrol booklet better for IT while CANSO/ICAO guide is more for unit training

ACS HUM	Recognise the onset of fatigue in self and in others.	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
2.1.2		1		
2.1.3				

Merged objectives related to recognition of the onset of fatigue in self and in others.

ACS HUM	Describe appropriate action when recognising fatigue.	2	<i>Optional content: Skybrary Human Behaviour, EUROCONTROL Fatigue and sleep management</i>	ALL
2.1.3		2		
2.1.5				

Improved content and renumbering: skybrari and Eurocontrol booklet added to optional content.

<del>ACS HUM</del>	<del>Recognise the onset of fatigue in others.</del>	<del>1</del>		ALL
<del>2.1.4</del>		<del>+</del>		
2.1.4				
2.1.2				

The proposal to delete/merge this objective with 2.1.2 above accepted.

## HUM 2.2 Fitness

ACS HUM	<del>Recognise signs of lack of personal fitness.</del>	1		ALL
<del>2.2.1</del>		<del>+</del>		
HUM 2.2.1				
HUMB 2.1.3				

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.

ACS HUM	<del>Describe actions when aware of a lack of personal fitness.</del>	2		ALL
<del>2.2.2</del>		<del>2</del>		
2.2.2				
HUMB 2.1.4				

The proposal to delete this objective accepted - now well covered in the new Basic topic 2 HEALTH AND WELL-BEING

**HUM 2.2 -4.1 Stress**

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

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

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

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

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

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

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

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

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

ACS HUM 3.1.2	Explain the threat and error management framework.	2 2	<b>Threats, errors, undesired states, countermeasures</b>  <i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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As above...

ACS HUM 3.1.3	Differentiate threats in ATC.	2 2	<b>Internal, external, airborne, environmental</b>  <i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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As above...

ACS HUM 3.1.4	Differentiate errors in ATC.	2 2	<b>Equipment, procedural, communication</b>  <i>Optional content: increase in traffic, changes in procedures, complexities of systems or traffic, weather, unusual occurrences</i>	ALL
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As above...

ACS HUM 3.1.5	Differentiate undesired states.	2 2	<b>On the ground, airborne</b>  <i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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As above...

ACS HUM 3.1.6	Analyse examples of threat and error management in ATC.	4 4	Case studies  <i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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As above...

### HUM 3.2 Applied threat and error management

ACS HUM 3.2.1	Manage threats.	4 4	Detect and respond  <i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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The proposal to move this objective to more appropriate new subtopic on conflict management accepted.

ACS HUM 3.2.2	Manage errors.	4 4	Detect and respond  <i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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As above...

ACS HUM 3.2.3	Manage undesired states.	4 4	Detect and respond  <i>Optional content: ICAO Circular 314 — AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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As above...

## ~~HUM 3 SOCIAL AND ORGANISATIONAL FACTORS~~

### HUM 3.1 Team resource management (TRM)

<del>ACS HUM 3.1.1</del>	<del>State the relevance of TRM:</del>	<del>1 4</del>	<del><i>Optional content: TRM course; EUROCONTROL Guidelines for the development of TRM training</i></del>	<del>ALL</del>
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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.

ACS HUM 3.1.2	State the content of the TRM concept.	1	<i>Optional content: team work, human error, team roles, stress, decision making, communication, situational awareness</i>	ALL
3.1.2		4		
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

ACS HUM 3.2.1	Identify reasons for conflict.	3		ALL
3.2.1		3		
4.2.1				

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

### HUM 3.3 Responsible behaviour

ACS 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
3.3.1		2		
HUMB 3.2.2				

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

ACS HUM 3.3.2	Apply responsible judgement.	3	Case study and discussion about a dilemma situation	ALL
		3		

The proposal to delete this unclear objective accepted.

## HUM 4 TEAMWORK STRESS

### HUM 4.1 Benefits of a teamwork Stress

ACS HUM 4.1.1	State the benefits of teamwork.	1	Increased safety, efficiency and capacity	ALL
		1		

The proposal to introduce new objective to start with some positive aspect/benefits of team work accepted.

ACS 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
		1		

The proposal to introduce new objective to start with some positive aspect/benefits of team work accepted.

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## HUM 4.2 Conflict Stress management

ACS HUM	Identify reasons for conflict.	3		ALL
4.2.1		3		
3.2.1				

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

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

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

ACS HUM	Describe actions to prevent human conflicts.	2	<i>Optional content: TRM team roles</i>	ALL
4.2.3		2		
3.2.2				

The proposal to remove optional content accepted - no need for TRM related content here.

ACS HUM	Consider the benefits of Critical Incident Stress Management (CISM).	2		ALL
4.2.4		2		
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.

ACS HUM	<del>Explain procedures used following an incident/accident.</del>	2	<i>Optional content: CISM, counselling, human element</i>	ALL
4.2.5		2		
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.

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## HUM 5 SYSTEMS

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

ACS HUM	Explain the concept of systems.	2	People, procedures, equipment, ATM in system terms, simple; complicated and complex systems, system thinking	ALL
5.1.1		2		
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.

ACS HUM 5.1.2	Describe how changes in one part of a system may impact the other parts. Explain the consequences of a systems failure in ATS.	2		ALL
HUMB 1.3.5		2		
HUMR 5.1.2				

Moved from Basic to Rating training for students to better understand the content. Corpus changed for clarity.

ACS HUM 5.1.3	Explain the need for matching human and equipment. Describe the role of the human in the system.	2		ALL
HUMB 1.3.6		2		
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

ACS HUM 5.1.1	Explain the relationship between error and safety.	2	Number and combination of errors; proactive versus reactive approach to discovery of error	ALL
HUMB 4.2.4		2		
			<i>Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	

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.

ACS HUM 5.1.2	Differentiate between the types of error.	2	Slips, lapses, mistakes	ALL
		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.

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

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

ACS HUM 5.1.4	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
		3		

As above.

ACS HUM 5.1.5	Explain how to detect errors to compensate for them:	2 2	STCA, MSAW, individual and collective strategy  <i>Optional content: ICAO Circular 314 = AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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As above.

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

ACS HUM 5.1.7 5.1.7 3.1.1	Explain the importance of error management:	2 2	<i>Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practises</i>	ALL
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Modified by adding the notion of "threat" and moved to new TEM Topic as 3.1.1

ACS HUM 5.1.8 5.1.8 HUMUC	Describe the impact on an ATCO following an occurrence/incident:	2 2	<i>Optional content: reporting, SMS, investigation, GISM</i>	ALL
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The proposal to delete this objective for consideration/inclusion in the later stages of ATCO training (Unit-Continuation-Development) accepted.

## HUM 5.2 Violation of rules

ACS HUM 5.2.1 5.2.1 HUMUC	Explain the causes and dangers of violation of rules becoming accepted as a practice:	2 2	<i>Optional content: ICAO Circular 314 = AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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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.

**HUM 6 COMMUNICATION COLLABORATIVE WORK**

**HUM 6.1 Effective communication**

ACS HUM 6.1.1	Explain effective communication in ATC operations.	2	ICAO Doc 9868	ALL
6.1.1		2		

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.

<del>ACS HUM 6.1.1</del>	<del>Use communication effectively in ATC.</del>	<del>3</del>		ALL
ATM 2.1.4		3		

The proposal to delete this objective as similar(at level 4) already exists in ATM accepted.

ACS HUM 6.1.2	Explain key strategies used to enable open communication.	2	<i>Optional content: Active listening, active speaking, assertiveness, honesty, relevance, facts, neutrality</i>	ALL
		2		

The proposal to introduce new communication related objective to stress the importance of open communication accepted.

ACS HUM 6.1.2	<del>Analyse examples of pilot and controller communication for effectiveness.</del>	<del>4</del>		ALL
HUM 6.1.2		4		
ATM 2.1.5				

Accepted proposal of merging and moving some practical related communication objectives to ATM subject.

ACS HUM 6.1.3	Describe parameters affecting controller's communication competency. <del>pilot cooperation</del>	2	Workload, mutual knowledge, controller versus pilot mental picture, distractions, sound, human conflicts	ALL
6.4.1		2		

*Optional content: Communication between and in the team(s), in the simulator, with the pilots, instructors, coordination partners workload, mutual knowledge, controller vs pilot mental picture*

Improved wording, content and objective moved to Effective communication to broaden the scope from pilot controller cooperation only to overall ATCO's communication competence.

**HUM 6.2 Effective feedback**

ACS HUM 6.2.1	Define feedback.	1		ALL
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HUM 6.2.1

The proposal to introduce new communication related subtopic and associated objectives to stress the importance of Effective feedback accepted.

ACS HUM 6.2.2	Explain the purpose of receiving and giving feedback and its effect on performance.	2		ALL
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HUM 6.2.2

As above.

ACS HUM 6.2.3	Consider the impact of communication styles on feedback, and resolving conflicts.	2		ALL
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HUM 6.2.3

As above.

ACS HUM 6.2.4	Integrate feedback into performance.	4		ALL
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HUM 6.2.4

As above.

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

<del>ACS HUM 6.2.1</del>	<del>List communication means between controllers in charge of the same area of responsibility (sector or tower):</del>	<del>1</del>	<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.

<del>ACS HUM 6.2.2</del>	<del>Explain consequences of the use of communication means on effectiveness:</del>	<del>2</del>	<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.

<del>ACS HUM 6.2.3</del>	<del>List possible actions to provide a safe position handover:</del>	<del>1</del>	<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.

ACS HUM 6.2.4	Explain consequences of a missed position handover process:	2		ALL
HUM 6.2.4		2		
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**

<del>ACS HUM 6.3.1</del>	<del>List factors and means for an effective coordination between sectors and/or tower positions:</del>	<del>1</del>	<del>Optional content: other sectors constraints, electronic coordination tools</del>	ALL
		4		

The proposal of 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**

<del>ACS HUM 6.4.1</del>	<del>Describe parameters affecting controller /pilot cooperation</del>	<del>2</del>		ALL
6.4.1		2		
6.1.3			<i>Optional content: workload, mutual knowledge, controller vs pilot mental picture</i>	

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.

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## 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.~~

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EQPS 1 VOICE COMMUNICATIONS				
EQPS 1.1 Radio communications				
ACS EQPS 1.1.1	Operate two-way communication equipment.	3 3	Transmit/receive switches, procedures <i>Optional content: frequency selection, standby equipment</i>	ALL
ACS 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
ACS 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				
ACS EQPS 1.2.1	Operate landline communications.	3 3	<i>Optional content: telephone, interphone and intercom equipment</i>	ALL
EQPS 2 AUTOMATION IN ATS				
EQPS 2.1 Aeronautical fixed telecommunication network (AFTN)				
ACS EQPS 2.1.1	Decode AFTN messages.	3 3	<i>Optional content: movement and control messages, NOTAM, SNOWTAM, BIRDTAM, etc.</i>	ALL
EQPS 2.2 Automatic data interchange				
ACS EQPS 2.2.1	Use automatic data transfer equipment where available.	3 3	<i>Optional content: sequencing systems, automated information and coordination, OLDI</i>	ADC APS ACS
EQPS 3 CONTROLLER WORKING POSITION				
EQPS 3.1 Operation and monitoring of equipment				
ACS EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3 3	Notification procedures, responsibilities	ALL

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ACS 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
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ACS EQPS 3.1.3	Operate available equipment in abnormal and emergency situations.	3 3		ALL
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### EQPS 3.2 Situation displays and information systems

ACS EQPS 3.2.1	Use situation displays.	3 3		ALL
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ACS EQPS 3.2.2	Check availability of information.	3 3		ALL
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ACS EQPS 3.2.3	Obtain information from equipment.	3 3		APP ACP APS
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### EQPS 3.3 Flight data systems

ACS EQPS 3.3.1	Use the flight data information at controller working position.	3 3		ALL
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### EQPS 3.4 Use of ATS surveillance system

ACS EQPS 3.4.1	Use the ATS surveillance system functions.	3 3		APS ACS
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ACS EQPS 3.4.2	Analyse the information provided by the ATS surveillance system.	4 4		APS ACS
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ACS EQPS 3.4.3	Assign codes.	4 4		APS ACS
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ACS EQPS 3.4.4	Appreciate the use of advanced surveillance technology.	3 3	<i>Optional content: Mode S, ADS-B, MLAT</i>	APS ACS
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### EQPS 3.5 Advanced systems

ACS EQPS 3.5.1	Appreciate the use of controller pilot datalink communications when available.	3 3		APS ACS
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ACS EQPS 3.5.2	Characterise <del>Appreciate</del> the use of information provided by advanced systems.	2 2<3	MTCD, AMAN, DMAN <i>Optional content: trajectory-based information, <del>MTCD</del>, MONA, etc.</i>	APS ACS
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The proposal to add MTCD specific objective to EQPSB modified by introducing mandatory content in the relevant rating training + The proposal to reduce the level (scope) of advanced systems objective accepted.

## EQPS 4 FUTURE EQUIPMENT

### EQPS 4.1 New developments

ACS EQPS 4.1.1	Recognise future developments.	1 1	New advanced systems <i>Optional content: European ATM master plan, European plan for aviation safety</i>	ALL
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The proposal to clarify this objective accepted by adding relevant reference to optional content.

## EQPS 5 EQUIPMENT AND SYSTEMS LIMITATIONS AND DEGRADATION

### EQPS 5.1 Reaction to limitations

ACS EQPS 5.1.1	Take account of the limitations of equipment and systems.	2 2		ALL
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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.

ACS EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3 3	Notification procedures, responsibilities	ALL
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### EQPS 5.2 Communication equipment degradation

ACS EQPS 5.2.1	Identify that communication equipment has degraded.	3 3	<i>Optional content: ground-air and landline communications</i>	APP ACP APS ACS
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ACS 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
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### EQPS 5.3 Navigational equipment degradation

ACS 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
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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)

ACS 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
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#### EQPS 5.4 Surveillance equipment degradation

ACS EQPS 5.4.1	Identify that surveillance equipment has degraded.	3 3	Partial power failure, loss of certain facilities, total failure	APS ACS
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ACS EQPS 5.4.2	Apply contingency procedures in the event of surveillance equipment degradation.	3 3	<i>Optional content: inform adjacent sectors, inform aircraft, apply vertical separation (emergency), increased horizontal separation, reduce the number of aircraft entering area of responsibility, transfer aircraft to another unit</i>	APS ACS
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#### EQPS 5.5 ATC processing system degradation

ACS EQPS 5.5.1	Identify a processing system degradation.	3 3	<i>Optional content: FDPS, SDPS, software processing of situation display</i>	APS ACS
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ACS EQPS 5.5.2	Apply contingency procedures in the event of a processing system degradation.	3 3		APS ACS
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## 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 area control centre

ACS PEN 1.1.1	Appreciate the functions and provision of an operational area control service.	3 3	Study visit to an area control centre	ACP ACS
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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

ACS PEN 2.1.1	Characterise civil ATS activities in area control centre.	2 2	Study visit to an area control centre <i>Optional content: familiarisation visits to TWR, APP, AIS, RCC</i>	ACP ACS
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ACS 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
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#### PEN 2.2 Contributors to military ATS operations

ACS 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

ACS PEN 3.1.1	Appreciate <del>Identify</del> the role of an air navigation <del>ATC as a</del> 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.

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

### PEN 4.1 Environmental protection

ACS PEN 4.1.1	Appreciate the mitigation techniques used en-route to minimise the aviation's impact on the environment.	3 3	<i>Optional content: free route airspace (FRA), night/weekend routes, continuous descent operations (CDO), continuous climb operations (CCO), ICAO Doc 10013 <del>Circular 303</del> - Operational opportunities to reduce minimise fuel burn use and reduce emissions</i>	ACS
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The proposal to update optional content to more appropriate document accepted. Supports the implementation of CDO/CCO and optimum flying.

## 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					
ACS 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
<div style="border: 1px solid black; padding: 5px;"> <p>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.</p> </div>					
ACS ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3 3			ALL
<div style="border: 1px solid black; padding: 5px;"> <p>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.</p> </div>					
ACS 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
ACS 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
<div style="border: 1px solid black; padding: 5px;"> <p>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.</p> </div>					
ACS 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

## ABES 2 SKILLS IMPROVEMENT

### ABES 2.1 Communication effectiveness

ACS 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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ACS 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

ACS 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
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ACS ABES 2.2.2	Organise priority of actions.	4 4		ALL
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ACS 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
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ACS ABES 2.2.4	Consider asking for help.	2 2		ALL
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### ABES 2.3 Air / ground cooperation

ACS ABES 2.3.1	Collect appropriate information relevant to the situation.	3 3		ALL
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ACS ABES 2.3.2	Assist the pilot.	3 3	Pilot workload <i>Optional content: instructions, information, support, human factors, etc.</i>	ALL
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## ABES 3 PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS

### ABES 3.1 Application of procedures for ABES

ACS 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

ACS ABES 3.2.1	Describe the procedures followed by a pilot when he/she experiences complete or partial radio failure.	2 2	Regulation (EU) No 923/2012 <i>Optional content: ICAO Doc 4444, military procedures, simulator operation procedures</i>	ALL
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The proposal to add national procedures related to the pilots' comm. failure to the content of ABES objective accepted by adding simulator operation procedures.

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

ACS ABES 3.3.1	Apply ATC procedures associated with unlawful interference and aircraft bomb threat.	3 3	Regulation (EU) No 923/2012 <i>Optional content: simulator operation procedures</i>	ALL
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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

ACS ABES 3.4.1	Apply the procedures in the case of strayed aircraft.	3 3	Regulation (EU) No 923/2012 <i>Optional content: inside controlled airspace, outside controlled airspace</i>	ALL
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ACS ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3 3	Regulation (EU) No 923/2012	ALL
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### ABES 3.5 Diversions

ACS ABES 3.5.1	Provide navigational assistance to diverting emergency aircraft.	4 4	Track/heading, distance, other navigational assistance <i>Optional content: nearest most suitable aerodrome</i>	APP ACP APS ACS
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### ABES 3.6 Transponder failure

ACS ABES 3.6.1	Apply procedures in the event of an SSR transponder failure.	3	Regulation (EU) No 923/2012	APS ACS
		3	<i>Optional content: total/partial failure, impact on ADS-B/Mode S capability</i>	

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### ABES 3.7 Interception of civil aircraft

ACS ABES 3.7.1	Explain the procedures in the event of interception of civil aircraft.	2	Regulation (EU) No 923/2012	ALL
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New subtopic an associated objective to cover important safety and regulatory requirement that was missing in the Initial training.

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