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EUROCONTROL Specification

**EUROCONTROL Specifications for the ATCO Common Core Content
Initial Training**

Annex 5: Area Control Procedural Rating - ACP

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**EUROCONTROL
Specification for the ATCO
Common Core Content
Initial Training**

**Annex 5
Area Control Procedural Rating
ACP**

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EXECUTIVE SUMMARY

Annex 5 of the EUROCONTROL Specification for the ATCO Common Core Content Initial Training V2.0 details the training objectives for the **Rating ATC training: Area Control Procedural**.

For training organisations providing ATCO training to meet the requirements laid down in the **Commission Regulation (EU) 2015/340 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates**, and the acceptable means of compliance (AMCs) associated with the regulation, this syllabus does not change any of the content in the regulation, but rather provides a document that combines the relevant elements into a familiar user format. For European organisations not required to comply with EU legislation, it provides an **Area Control Procedural Rating training syllabus** that retains references to ICAO documentation.

Rating training is defined *as theoretical and practical training designed to impart knowledge and practical skills related to a specific rating and, if applicable, rating endorsement*.

The composition and topics were chosen based on the **Commission Regulation (EU) 2015/340** Annex I — Rating training (Reference: Annex I — Part ATCO Subpart D, Section 2, ATCO.D.010(a)(2)(iv)) and ICAO Annex 1 requirements for an Air Traffic Control licence. The structure of the syllabus reflects a logical grouping of objectives into coherent subjects.

The order of subjects and objectives is neither intended to convey a pedagogical sequence nor to indicate a relative level of importance. No recommendation is made in this area. When teaching the objectives, it is envisaged that different training methodologies will be used.

Prior to developing or updating the **ACP Rating training course**, training providers must be familiar with the information contained in the EUROCONTROL Specification for the ATCO Common Core Content Initial Training V2.0, particularly Section 6 (How to use this document) which contains, amongst other items, the fundamental principles that are applied to the Specification.

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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.

TOPIC INTR 1 - COURSE MANAGEMENT

Subtopic INTR 1.1 - Course introduction

ACP INTR 1.1.1	Explain the aims and main objectives of the course.	2		ALL
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Subtopic INTR 1.2 - Course administration

ACP INTR 1.2.1	State course administration.	1		ALL
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Subtopic INTR 1.3 - Study material and training documentation

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

Subtopic INTR 2.1 - Course content and organisation

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

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

ACP INTR 2.3.1	Describe the assessment process.	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.

TOPIC LAW 1 - ATCO LICENSING/CERTIFICATE OF COMPETENCE

Subtopic LAW 1.1 - Privileges and conditions

ACP LAW 1.1.1	Appreciate the conditions which shall be met to issue an Area Control Procedural rating.	3	Regulation (EU) 2015/340 on ATCO Licensing ICAO Annex 1 <i>Optional content: national documents</i>	ACP
ACP LAW 1.1.2	Explain how to maintain and update professional knowledge and skills to retain competence in the operational environment.	2		ALL
ACP LAW 1.1.3	Explain the conditions for suspension/revocation of ATCO licence.	2	Regulation (EU) 2015/340 on ATCO Licensing ICAO Annex 1	ALL

TOPIC LAW 2 - RULES AND REGULATIONS

Subtopic LAW 2.1 - Reports

ACP LAW 2.1.1	List the standard forms for reports.	1	Air traffic incident report <i>Optional content: routine air reports, breach of regulations, watch/log book, records</i>	ALL
ACP LAW 2.1.2	Describe the functions of, and processes for, reporting.	2	Reporting culture, air traffic incident report <i>Optional content: breach of regulations, watch/log book, records, voluntary reporting, ESARR 2</i>	ALL
ACP LAW 2.1.3	Use forms for reporting.	3	Regulation (EU) No 376/2014, air traffic incident reporting form(s) ICAO Doc 4444 Appendix 4, air traffic incident reporting form(s) <i>Optional content: routine air reports, breach of regulations, watch/log book, records</i>	ALL

Subtopic LAW 2.2 - Airspace

ACP LAW 2.2.1	Appreciate classes and structure of airspace and their relevance to Area Control Procedural rating operations.	3		ACP
ACP LAW 2.2.2	Provide planning, coordination and control actions appropriate to the airspace classification and structure.	4	<i>Optional content: Regulation (EU) No 923/2012, ICAO Annex 2, ICAO Annex 11, international requirements, civil requirements, military requirements, areas of responsibility, sectorization, national requirements</i>	ALL
ACP LAW 2.2.3	Appreciate responsibility for terrain clearance.	3		ALL

TOPIC LAW 3 - ATC SAFETY MANAGEMENT**Subtopic LAW 3.1 - Feedback process**

ACP LAW 3.1.1	State the importance of controller contribution to the feedback process.	1	<i>Optional content: voluntary reporting</i>	ALL
ACP LAW 3.1.2	Describe how reported occurrences are analysed.	2	<i>Optional content: ESARR 2, local procedures</i>	ALL
ACP LAW 3.1.3	Name the means used to disseminate recommendations.	1	<i>Optional content: safety letters, safety boards web pages</i>	ALL
ACP LAW 3.1.4	Appreciate the 'Just Culture' concept.	3	Benefits, prerequisites, constraints <i>Optional content: EAM 2 GUI 6, GAIN Report</i>	ALL

Subtopic LAW 3.2 - Safety Investigation

ACP LAW 3.2.1	Describe role and mission of Safety Investigation in the improvement of safety.	2		ALL
ACP LAW 3.2.2	Define working methods of Safety Investigation.	1		ALL

SUBJECT 3: AIR TRAFFIC MANAGEMENT

The subject objective is:

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

TOPIC ATM 1 - PROVISION OF SERVICES

Subtopic ATM 1.1 - Air traffic control (ATC) service

ACP ATM 1.1.1	Appreciate own area of responsibility.	3		APP ACP APS ACS
ACP ATM 1.1.2	Provide area control service.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444, operation manuals ICAO Annex 11, ICAO Doc 7030, ICAO Doc 4444, operation manuals	ACP ACS

Subtopic ATM 1.2 - Flight information service (FIS)

ACP ATM 1.2.1	Provide FIS.	4	ICAO Doc 4444 <i>Optional content: national documents</i>	ALL
ACP ATM 1.2.2	Issue appropriate information concerning the location of conflicting traffic.	3	ICAO Doc 4444, traffic information, essential traffic information	APP ACP APS ACS

Subtopic ATM 1.3 - Alerting service (ALRS)

ACP ATM 1.3.1	Provide ALRS.	4	ICAO Doc 4444 <i>Optional content: national documents</i>	ALL
ACP ATM 1.3.2	Respond to distress and urgency messages and signals.	3	Regulation (EU) No 923/2012, ICAO Annex 10, ICAO Doc 4444 ICAO Annex 10, ICAO Doc 4444 <i>Optional content: EUROCONTROL Guidelines for Controller Training in the Handling of Unusual/Emergency Situations</i>	ALL

Subtopic ATM 1.4 - ATS system capacity and air traffic flow management

ACP ATM 1.4.1	Appreciate principles of ATS system capacity and air traffic flow management.	3	<i>Optional content: EUROCONTROL ATFCM Users Manual, FABs, FUA, free flight, etc.</i>	APP ACP APS ACS
ACP ATM 1.4.2	Apply flow management procedures in the provision of ATC.	3	<i>Optional content: EUROCONTROL ATFCM Users Manual</i>	APP ACP APS ACS
ACP ATM 1.4.3	Organise traffic flows and patterns to take account of airspace boundaries.	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
ACP ATM 1.4.4	Organise traffic flows and patterns to take account of areas of responsibility.	4	<i>Optional content: EUROCONTROL ATFCM Users Manual</i>	APP ACP APS ACS
ACP ATM 1.4.5	Inform supervisor of situation.	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

Subtopic ATM 1.5 - Airspace management (ASM)

ACP ATM 1.5.1	Appreciate the principles and means of ASM.	3	Regulation (EC) No 551/2004, Regulation (EC) 2150/2005, Regulation (EC) No 730/2006 EUROCONTROL ASM HBK - Airspace Management Handbook for the application of FUA <i>Optional content: FABs, EUROCONTROL Specification for the application of FUA, TSAs, CDRs, CBAs</i>	APP ACP APS ACS
ACP ATM 1.5.2	Organise traffic to take account of ASM.	4	<i>Optional content: CDR, TSA, TRA, CBA, real-time activation, deactivation or reallocation of airspace</i>	APP ACP

TOPIC ATM 2 - COMMUNICATION**Subtopic ATM 2.1 - Effective communication**

ACP ATM 2.1.1	Use approved phraseology.	3	ICAO Doc 4444 <i>Optional content: ICAO Doc 9432 RTF manual, standard words and phrases as contained in ICAO Annex 10 Vol. 2</i>	ALL
ACP ATM 2.1.2	Ensure effective communication.	4	Communication techniques, readback/verification of readback	ALL

TOPIC ATM 3 - ATC CLEARANCES AND ATC INSTRUCTIONS**Subtopic ATM 3.1 - ATC clearances**

ACP ATM 3.1.1	Issue appropriate ATC clearances.	3	ICAO Doc 4444 <i>Optional content: national documents</i>	ALL
ACP ATM 3.1.2	Integrate appropriate ATC clearances in control service.	4		ALL
ACP ATM 3.1.3	Ensure the agreed course of action is carried out.	4		ALL

Subtopic ATM 3.2 - ATC instructions

ACP ATM 3.2.1	Issue appropriate ATC instructions.	3	ICAO Doc 4444 <i>Optional content: national documents</i>	ALL
ACP ATM 3.2.2	Integrate appropriate ATC instructions in control service.	4		ALL
ACP ATM 3.2.3	Ensure the agreed course of action is carried out.	4		ALL

TOPIC ATM 4 - COORDINATION**Subtopic ATM 4.1 - Necessity for coordination**

ACP ATM 4.1.1	Identify the need for coordination.	3		ALL
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Subtopic ATM 4.2 - Tools and methods for coordination

ACP ATM 4.2.1	Use the available tools for coordination.	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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Subtopic ATM 4.3 - Coordination procedures

ACP ATM 4.3.1	Initiate appropriate coordination.	3	Delegation/transfer of responsibility for air-ground communications and separation, transfer of control, etc. ICAO Doc 4444 <i>Optional content: release point</i>	ALL
ACP ATM 4.3.2	Analyse effect of coordination requested by an adjacent position/unit.	4	<i>Optional content: delegation/transfer of responsibility for air-ground communications and separation, release point, transfer of control, etc.</i>	ALL
ACP ATM 4.3.3	Select, after negotiation, an appropriate course of action.	5		ALL

Subtopic ATM 4.3 - Coordination procedures

ACP ATM 4.3.4	Ensure the agreed course of action is carried out.	4		ALL
ACP ATM 4.3.5	Coordinate in the provision of FIS.	4	ICAO Doc 4444	ALL
ACP ATM 4.3.6	Coordinate in the provision of ALRS.	4	ICAO Doc 4444	ALL

TOPIC ATM 5 - ALTIMETRY AND LEVEL ALLOCATION**Subtopic ATM 5.1 - Altimetry**

ACP ATM 5.1.1	Allocate levels according to altimetry data.	4	ICAO Doc 8168, ICAO Doc 4444	ALL
ACP ATM 5.1.2	Ensure separation according to altimetry data.	4	<i>Optional content: transition level, transition altitude, transition layer, height, flight level, altitude, vertical distance to airspace boundaries</i>	ALL

Subtopic ATM 5.2 - Terrain clearance

ACP ATM 5.2.1	Provide planning, coordination and control actions appropriate to the rules for minimum safe levels and terrain clearance.	4	<i>Optional content: terrain clearance dimensions, minimum safe altitudes, transition level, minimum flight level, minimum sector altitude</i>	APP ACP
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TOPIC ATM 6 - SEPARATIONS

Subtopic ATM 6.1 - Vertical separation

ACP ATM 6.1.1	Provide standard vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030, level allocation, during climb/descent, rate of climb/descent, RVSM, non-RVSM aircraft, holding pattern	ACP ACS
ACP ATM 6.1.2	Provide increased vertical separation.	4	ICAO Doc 4444, ICAO Doc 7030 <i>Optional content: level allocation, during climb/descent, rate of climb/descent</i>	APP ACP APS ACS
ACP ATM 6.1.3	Appreciate the application of vertical emergency separation.	3	ICAO Doc 4444, ICAO Doc 7030	APP ACP APS ACS

Subtopic ATM 6.2 - Horizontal separation

ACP ATM 6.2.1	Provide longitudinal separation.	4	Based on time, based on distance (DME and/or GNSS, RNAV) <i>Optional content: based on time with Mach number technique</i>	ACP
ACP ATM 6.2.2	Provide lateral separation.	4	ICAO Doc 4444, ICAO Doc 7030, holding	APP ACP
ACP ATM 6.2.3	Provide track separation.	4		ACP APP
ACP ATM 6.2.4	Provide geographical separation.	4	Visual, using navigation aids, area navigation	ACP APP

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

Subtopic ATM 7.1 - Airborne collision avoidance systems

ACP ATM 7.1.1	Differentiate between ACAS advisory thresholds and separation standards applicable in the area control environment.	2	ICAO Doc 9863	ACP ACS
			<i>Optional content: EUROCONTROL TCAS web page</i>	
ACP ATM 7.1.2	Describe the controller responsibility during and following an ACAS RA reported by pilot.	2	ICAO Doc 4444	ALL
ACP ATM 7.1.3	Respond to pilot notification of actions based on airborne systems warnings.	3	ACAS, TAWS	ALL
			<i>Optional content: EUROCONTROL ACAS web page</i>	

TOPIC ATM 8 - DATA DISPLAY

Subtopic ATM 8.1 - Data management

ACP ATM 8.1.1	Update the data display to accurately reflect the traffic situation.	3		ALL
			<i>Optional content: information displayed, strip marking procedures, electronic information data displays, actions based on traffic display information, calculation of EETs</i>	
ACP ATM 8.1.2	Analyse pertinent data on data displays.	4		ALL
ACP ATM 8.1.3	Organise pertinent data on data displays.	4		ALL
ACP ATM 8.1.4	Obtain flight plan information.	3	CPL, FPL, supplementary information	ALL
			<i>Optional content: RPL, AFIL, etc.</i>	
ACP ATM 8.1.5	Use flight plan information.	3		ALL

TOPIC ATM 9 - OPERATIONAL ENVIRONMENT (SIMULATED)**Subtopic ATM 9.1 - Integrity of the operational environment**

ACP ATM 9.1.1	Obtain information concerning the operational environment.	3	<i>Optional content: briefing, notices, local orders, verification of information</i>	ALL
ACP ATM 9.1.2	Ensure the integrity of the operational environment.	4	<i>Optional content: integrity of displays, verification of the information provided by displays, etc.</i>	APP ACP APS ACS

Subtopic ATM 9.2 - Verification of the currency of operational procedures

ACP ATM 9.2.1	Check all relevant documentation before managing traffic.	3	<i>Optional content: briefing, LOAs, NOTAM, AICs</i>	ALL
ACP ATM 9.2.2	Manage traffic in accordance with procedural changes.	4		APP ACP APS ACS

Subtopic ATM 9.3 - Handover-takeover

ACP ATM 9.3.1	Transfer information to the relieving controller.	3		ALL
ACP ATM 9.3.2	Obtain information from the controller handing over.	3		ALL

TOPIC ATM 10 - PROVISION OF CONTROL SERVICE**Subtopic ATM 10.1 - Responsibility and processing of information**

ACP ATM 10.1.1	Describe the division of responsibility between air traffic control units.	2	ICAO Doc 4444	ALL
ACP ATM 10.1.2	Describe the responsibility in regard to military traffic.	2	ICAO Doc 4444	ALL
			<i>Optional content: ICAO Doc 9554</i>	
ACP ATM 10.1.3	Describe the responsibility in regard to unmanned free balloons.	2	ICAO Doc 4444	APP ACP APS ACS
ACP ATM 10.1.4	Obtain operational information.	3	ICAO Doc 4444, local operation manuals	APP ACP APS ACS
ACP ATM 10.1.5	Interpret operational information.	5		APP ACP APS ACS
ACP ATM 10.1.6	Organise forwarding of operational information.	4		APP ACP APS ACS
			<i>Optional content: including the use of backup procedures</i>	
ACP ATM 10.1.7	Integrate operational information into control decisions.	4		APP ACP APS ACS
ACP ATM 10.1.8	Appreciate the influence of operational requirements.	3		ALL
			<i>Optional content: military flying, calibration flights, aerial photography</i>	

Subtopic ATM 10.2 - Area control

ACP ATM 10.2.1	Explain the responsibility for the provision of an area procedural control service.	2	ICAO Doc 4444, ICAO Annex 11, local operation manuals	ACP
ACP ATM 10.2.2	Provide planning, coordination and control actions appropriate to the VFR and IFR in VMC and IMC.	4	Regulation (EU) No 923/2012, ICAO Annex 11, ICAO Doc 4444 ICAO Annex 2, ICAO Annex 11, ICAO Doc 4444	ACP ACS

Subtopic ATM 10.3 - Traffic management process

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

Subtopic ATM 10.4 - Handling traffic

ACP ATM 10.4.1	Manage arrivals, departures and overflights.	4		APP ACP APS ACS
ACP ATM 10.4.2	Balance the workload against personal capacity.	5	<i>Optional content: re-routing, re-planning, prioritising solutions, denying requests, delegating responsibility for separation</i>	APP ACP APS ACS

TOPIC ATM 11 - HOLDING**Subtopic ATM 11.1 - General holding procedures**

ACP ATM 11.1.1	Apply holding procedures.	3	ICAO Doc 4444, holding instructions, allocation of holding levels, onward clearance times	APP ACP APS ACS
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ACP ATM 11.1.2	Appreciate the factors affecting holding patterns.	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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Subtopic ATM 11.2 - Holding aircraft

ACP ATM 11.2.1	Calculate expected onward clearance times.	3		ACP ACS
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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.

TOPIC MET 1 - METEOROLOGICAL PHENOMENA

Subtopic MET 1.1 - Meteorological phenomena

ACP MET 1.1.1	Appreciate the impact of adverse weather.	3	Thunderstorms, icing, jet streams, clear air turbulence (CAT), turbulence, microburst, severe mountain waves, line squalls, volcanic ash	ACP ACS
			<i>Optional content: solar radiation</i>	
ACP MET 1.1.2	Integrate data about meteorological phenomena into provision of ATS.	4	Clearances, instructions and transmitted information	ALL
			<i>Optional content: relevant meteorological phenomena</i>	
ACP MET 1.1.3	Use techniques to avoid adverse weather when necessary/possible.	3	Re-routing, level change, etc.	APP ACP APS ACS

TOPIC MET 2 - SOURCES OF METEOROLOGICAL DATA

Subtopic MET 2.1 - Sources of meteorological information

ACP MET 2.1.1	Obtain meteorological information	3	METAR, TAF, SIGMET, AIRMET	APP ACP APS ACS
			<i>Optional content: AIREP/AIREP Special</i>	
ACP MET 2.1.2	Relay meteorological information.	3	ICAO Doc 4444	ALL
			<i>Optional content: flight information centre, adjacent ATS unit</i>	

SUBJECT 5: NAVIGATION

The subject objective is:

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

TOPIC NAV 1 - MAPS AND AERONAUTICAL CHARTS

Subtopic NAV 1.1 - Maps and charts

ACP NAV 1.1.1	Use relevant maps and charts.	3		APP ACP APS ACS
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TOPIC NAV 2 - INSTRUMENT NAVIGATION

Subtopic NAV 2.1 - Navigational systems

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

Subtopic NAV 2.2 - Navigational assistance

ACP NAV 2.2.1	Evaluate the necessary information to be provided to pilots in need of navigational assistance.	5	<i>Optional content: nearest most suitable aerodrome, track, heading, distance, aerodrome information, any other navigational assistance relevant at the time</i>	APP ACP APS ACS
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Subtopic NAV 2.3 - PBN applications

ACP NAV 2.3.1	State the navigation applications used in terminal and en-route environments.	1	Terminal-RNAV-1 (≈P-RNAV); En-route-RNAV-5 (B-RNAV) <i>Optional content: A-RNP, EC PBN Implementing Rule, ICAO Doc 9613</i>	ACP ACS
ACP NAV 2.3.2	Explain the principles and designation of navigation specifications in use.	2	<i>Optional content: performance, functionality, sensors, aircrew and controller requirements</i>	APP ACP APS ACS

Subtopic NAV 2.3 - PBN applications

ACP	State future PBN developments.	1	A-RNP, APV	ADI
NAV				APP
2.3.3				ACP
				APS
				ACS

Optional content: RNP 3D, RNP 4D

SUBJECT 6: AIRCRAFT

The subject objective is:

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

TOPIC ACFT 1 - AIRCRAFT INSTRUMENTS

Subtopic ACFT 1.1 - Aircraft instruments

ACP ACFT 1.1.1	Integrate information from aircraft instruments provided by the pilot in the provision of ATS.	4	ALL
ACP ACFT 1.1.2	Explain the operation of aircraft radio equipment.	2	ALL
<i>Optional content: radios (number of), emergency radios</i>			

TOPIC ACFT 2 - AIRCRAFT CATEGORIES

Subtopic ACFT 2.1 - Wake turbulence

ACP ACFT 2.1.1	Explain the wake turbulence effect and associated hazards to the succeeding aircraft.	2	ALL
ACP ACFT 2.1.2	Appreciate the techniques used to prevent hazards associated with wake turbulence on succeeding aircraft.	3	ALL

TOPIC ACFT 3 - FACTORS AFFECTING AIRCRAFT PERFORMANCE

Subtopic ACFT 3.1 - Climb factors

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

Subtopic ACFT 3.2 - Cruise factors

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

Subtopic ACFT 3.3 - Descent factors

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

ACP ACFT 3.4.1	Integrate consideration of economic factors affecting aircraft.	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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ACP ACFT 3.4.2	Use continuous climb techniques where applicable.	3		<i>APP</i> ACP <i>APS</i> ACS
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ACP ACFT 3.4.3	Use direct routing where applicable.	3		<i>APP</i> ACP <i>APS</i> ACS
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Subtopic ACFT 3.5 - Environmental factors

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

Subtopic ACFT 4.1 - Performance data

ACP 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	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.

TOPIC HUM 1 - PSYCHOLOGICAL FACTORS

Subtopic HUM 1.1 - Cognitive

ACP HUM 1.1.1	Describe the human information processing model.	2	Attention, perception, memory, situational awareness, decision making, response	ALL
ACP HUM 1.1.2	Describe the factors which influence human information processing.	2	Confidence, stress, learning, knowledge, experience, fatigue, alcohol/drugs, distraction, interpersonal relations	ALL
ACP HUM 1.1.3	Monitor the effect of human information processing factors on decision making.	3	<i>Optional content: workload, stress, interpersonal relations, distraction, confidence</i>	ALL

TOPIC HUM 2 - MEDICAL AND PHYSIOLOGICAL FACTORS

Subtopic HUM 2.1 - Fatigue

ACP HUM 2.1.1	State factors that cause fatigue.	1	Shift work <i>Optional content: night shifts and rosters</i>	ALL
ACP HUM 2.1.2	Describe the onset of fatigue.	2	<i>Optional content: lack of concentration, listlessness, irritability, frustration, ICAO Circular 241 – AN/145 Human factors in Air Traffic Control</i>	ALL
ACP HUM 2.1.3	Recognise the onset of fatigue in self.	1	<i>Optional content: ICAO Circular 241 – AN/145 Human factors in Air Traffic Control</i>	ALL
ACP HUM 2.1.4	Recognise the onset of fatigue in others.	1		ALL
ACP HUM 2.1.5	Describe appropriate action when recognising fatigue.	2		ALL

Subtopic HUM 2.2 - Fitness

ACP HUM 2.2.1	Recognise signs of lack of personal fitness.	1		ALL
ACP HUM 2.2.2	Describe actions when aware of a lack of personal fitness.	2		ALL

TOPIC HUM 3 - SOCIAL AND ORGANISATIONAL FACTORS**Subtopic HUM 3.1 - Team resource management (TRM)**

ACP HUM 3.1.1	State the relevance of TRM.	1	<i>Optional content: TRM course, EUROCONTROL Guidelines for the development of TRM training</i>	ALL
ACP 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

Subtopic HUM 3.2 - Teamwork and team roles

ACP HUM 3.2.1	Identify reasons for conflict.	3		ALL
ACP HUM 3.2.2	Describe actions to prevent human conflicts.	2	<i>Optional content: TRM team roles</i>	ALL
ACP HUM 3.2.3	Describe strategies to cope with human conflicts.	2	<i>Optional content: in your team, in the simulator</i>	ALL

Subtopic HUM 3.3 - Responsible behaviour

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

TOPIC HUM 4 - STRESS

Subtopic HUM 4.1 - Stress

ACP HUM 4.1.1	Recognise the effects of stress on performance.	1	Stress and its symptoms in self and in others	ALL
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Subtopic HUM 4.2 - Stress management

ACP HUM 4.2.1	Act to reduce stress.	3	The effect of personality in coping with stress, the benefits of active stress management	ALL
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ACP HUM 4.2.2	Respond to stressful situation by offering, asking or accepting assistance.	3	<i>Optional content: the benefits of offering, accepting and asking for help in stressful situations</i>	ALL
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ACP HUM 4.2.3	Recognise the effect of shocking and stressful events.	1	Self and others, abnormal situations, CISM	ALL
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ACP HUM 4.2.4	Consider the benefits of Critical Incident Stress Management (CISM).	2		ALL
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ACP HUM 4.2.5	Explain procedures used following an incident/accident.	2	<i>Optional content: CISM, counselling, human element</i>	ALL
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TOPIC HUM 5 - HUMAN ERROR

Subtopic HUM 5.1 - Human error

ACP 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 <i>Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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ACP HUM 5.1.2	Differentiate between the types of error.	2	Slips, lapses, mistakes <i>Optional content: Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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Subtopic HUM 5.1 - Human error

ACP 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
ACP 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
ACP HUM 5.1.5	Explain how to detect errors to compensate for them.	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
ACP HUM 5.1.6	Execute corrective actions.	3	Error compensation <i>Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
ACP HUM 5.1.7	Explain the importance of error management.	2	<i>Optional content: prevention of incidents, safety improvement, revision of procedures and/or working practises</i>	ALL
ACP HUM 5.1.8	Describe the impact on an ATCO following an occurrence/incident.	2	<i>Optional content: reporting, SMS, investigation, CISM</i>	ALL

Subtopic HUM 5.2 - Violation of rules

ACP HUM 5.2.1	Explain the causes and dangers of violation of rules becoming accepted as a practice.	2	<i>Optional content: ICAO Circular 314 – AN/178 Threat and Error Management (TEM) in Air Traffic Control</i>	ALL
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TOPIC HUM 6 - COLLABORATIVE WORK**Subtopic HUM 6.1 - Communication**

ACP HUM 6.1.1	Use communication effectively in ATC.	3		ALL
ACP HUM 6.1.2	Analyse examples of pilot and controller communication for effectiveness.	4		ALL

Subtopic HUM 6.2 - Collaborative work within the same area of responsibility

ACP HUM 6.2.1	List communication means between controllers in charge of the same area of responsibility (sector or tower).	1	<i>Optional content: electronic, written, verbal and non-verbal communication</i>	ALL
ACP HUM 6.2.2	Explain consequences of the use of communication means on effectiveness.	2	<i>Optional content: strips legibility and encoding, labels designation, feedback</i>	ALL
ACP HUM 6.2.3	List possible actions to provide a safe position handover.	1	<i>Optional content: rigour, preparation, overlap time</i>	ALL
ACP HUM 6.2.4	Explain consequences of a missed position handover process.	2		ALL

Subtopic HUM 6.3 - Collaborative work between different areas of responsibility

ACP HUM 6.3.1	List factors and means for an effective coordination between sectors and/or tower positions.	1	<i>Optional content: other sectors constraints, electronic coordination tools</i>	ALL
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Subtopic HUM 6.4 - Controller/pilot cooperation

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

TOPIC EQPS 1 - VOICE COMMUNICATIONS

Subtopic EQPS 1.1 - Radio communications

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

Subtopic EQPS 1.2 - Other voice communications

ACP EQPS 1.2.1	Operate landline communications.	3		ALL
			<i>Optional content: telephone, interphone and intercom equipment</i>	

TOPIC EQPS 2 - AUTOMATION IN ATS

Subtopic EQPS 2.1 - Aeronautical fixed telecommunication network (AFTN)

ACP EQPS 2.1.1	Decode AFTN messages.	3		ALL
			<i>Optional content: movement and control messages, NOTAM, SNOWTAM, BIRDTAM, etc.</i>	

Subtopic EQPS 2.2 - Automatic data interchange

ACP EQPS 2.2.1	Use automatic data transfer equipment where available.	3	<i>Optional content: automated information and coordination, OLDI</i>	APP ACP
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TOPIC EQPS 3 - CONTROLLER WORKING POSITION**Subtopic EQPS 3.1 - Operation and monitoring of equipment**

ACP EQPS 3.1.1	Monitor the technical integrity of the controller working position.	3	Notification procedures, responsibilities	ALL
ACP EQPS 3.1.2	Operate the equipment of the controller working position.	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
ACP EQPS 3.1.3	Operate available equipment in abnormal and emergency situations.	3		ALL

Subtopic EQPS 3.2 - Situation displays and information systems

ACP EQPS 3.2.1	Use situation displays.	3		ALL
ACP EQPS 3.2.2	Check availability of information material.	3		ALL
ACP EQPS 3.2.3	Obtain information from equipment.	3		APP ACP APS ACS

Subtopic EQPS 3.3 - Flight data systems

ACP EQPS 3.3.1	Use the flight data information at controller working position.	3		ALL
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TOPIC EQPS 4 - FUTURE EQUIPMENT**Subtopic EQPS 4.1 - New developments**

ACP EQPS 4.1.1	Recognise future developments.	1	New advanced systems	ALL
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TOPIC EQPS 5 - EQUIPMENT AND SYSTEMS LIMITATIONS AND DEGRADATION**Subtopic EQPS 5.1 - Reaction to limitations**

ACP EQPS 5.1.1	Take account of the limitations of equipment and systems.	2		ALL
ACP EQPS 5.1.2	Respond to technical deficiencies of the operational position.	3	Notification procedures, responsibilities	ALL

Subtopic EQPS 5.2 - Communication equipment degradation

ACP EQPS 5.2.1	Identify that communication equipment has degraded.	3		APP ACP APS ACS
			<i>Optional content: ground-air and landline communications</i>	
ACP EQPS 5.2.2	Apply contingency procedures in the event of communication equipment degradation.	3	Procedures for total or partial degradation of ground-air and landline communications, alternative methods of transferring data	APP ACP APS ACS

Subtopic EQPS 5.3 - Navigational equipment degradation

ACP EQPS 5.3.1	Identify when a navigational equipment failure will affect operational ability.	3		ALL
			<i>Optional content: VOR, navigational aids</i>	
ACP EQPS 5.3.2	Apply contingency procedures in the event of a navigational equipment degradation.	3		ADI APP ACP APS ACS
			Optional content: vertical separation, information to aircraft, navigational assistance, seeking assistance from adjacent units	

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.

TOPIC PEN 1 - FAMILIARISATION

Subtopic PEN 1.1 - Study visit to area control centre

ACP PEN 1.1.1	Appreciate the functions and provision of an operational area control service.	3	Study visit to area control centre	ACP ACS
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TOPIC PEN 2 - AIRSPACE USERS

Subtopic PEN 2.1 - Contributors to civil ATS operations

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

ACP PEN 2.1.2	Characterise other parties interfacing with ATS operations.	2	<i>Optional content: familiarisation visits to engineering services, fire and emergency services, airline operations offices</i>	ALL
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Subtopic PEN 2.2 - Contributors to military ATS operations

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

Subtopic PEN 3.1 - Provision of services and user requirements

ACP PEN 3.1.1	Identify the role of ATC as a service provider.	3		ALL
ACP PEN 3.1.2	Appreciate ATS users requirements.	3		ALL

TOPIC PEN 4 - ENVIRONMENTAL PROTECTION

Subtopic PEN 4.1 - Environmental protection

ACP PEN 4.1.1	Appreciate the mitigation techniques used en-route to minimise the aviation's impact on the environment.	3	<i>Optional content: free route airspace (FRA), night/weekend routes, ICAO Circular 303 - Operational opportunities to minimize fuel use and reduce emissions</i>	ACP ACS
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SUBJECT 10: ABNORMAL AND EMERGENCY SITUATIONS

The subject objective is:

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

TOPIC ABES 1 - ABNORMAL AND EMERGENCY SITUATIONS (ABES)

Subtopic ABES 1.1 - Overview of ABES

ACP ABES 1.1.1	List common abnormal and emergency situations.	1	<i>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</i>	ALL
ACP ABES 1.1.2	Identify potential or actual abnormal and emergency situations.	3		ALL
ACP ABES 1.1.3	Take into account the procedures for given abnormal and emergency situations.	2	<i>Optional content: ICAO Doc 4444</i>	APP ACP APS ACS
ACP ABES 1.1.4	Take into account that procedures do not exist for all abnormal and emergency situations.	2	<i>Optional content: real life examples</i>	ALL
ACP ABES 1.1.5	Consider how the evolution of a situation may have an impact on safety.	2	<i>Optional content: separation, information, coordination</i>	ALL

TOPIC ABES 2 - SKILLS IMPROVEMENT

Subtopic ABES 2.1 - Communication effectiveness

ACP ABES 2.1.1	Ensure effective communication in all circumstances including the case where standard phraseology is not applicable.	4	Phraseology, vocabulary, readback, silence instruction	ALL
ACP ABES 2.1.2	Apply change of radiotelephony call sign.	3	ICAO Doc 4444	ALL

Subtopic ABES 2.2 - Avoidance of mental overload

ACP ABES 2.2.1	Describe actions to keep control of the situation.	2	<i>Optional content: sector splitting, holding, flow management, task delegation</i>	ALL
ACP ABES 2.2.2	Organise priority of actions.	4		ALL
ACP ABES 2.2.3	Ensure effective circulation of information.	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
ACP ABES 2.2.4	Consider asking for help.	2		ALL

Subtopic ABES 2.3 - Air / ground cooperation

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

TOPIC ABES 3 - PROCEDURES FOR ABNORMAL AND EMERGENCY SITUATIONS

Subtopic ABES 3.1 - Application of procedures for ABES

ACP ABES 3.1.1	Apply the procedures for given abnormal and emergency situations.	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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Subtopic ABES 3.2 - Radio failure

ACP ABES 3.2.1	Describe the procedures followed by a pilot when he/she experiences complete or partial radio failure.	2	ICAO Doc 7030 <i>Optional content: military procedures</i>	ALL
ACP ABES 3.2.2	Apply the procedures to be followed when a pilot experiences complete or partial radio failure.	3	<i>Optional content: prolonged loss of communication</i>	ALL

Subtopic ABES 3.3 - Unlawful interference and aircraft bomb threat

ACP ABES 3.3.1	Apply ATC procedures associated with unlawful interference and aircraft bomb threat.	3	ICAO Doc 4444	ALL
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Subtopic ABES 3.4 - Strayed or unidentified aircraft

ACP ABES 3.4.1	Apply the procedures in the case of strayed aircraft.	3	ICAO Doc 4444	ALL
			<i>Optional content: inside controlled airspace, outside controlled airspace</i>	

ACP ABES 3.4.2	Apply the procedures in the case of unidentified aircraft.	3	ICAO Doc 4444	ALL
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Subtopic ABES 3.5 - Diversions

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



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