



SUMMARY

This course is a compilation of modules dedicated to providing recurrent training for pilots operating in International Airspace.

The course modules are set up to separate the overall material by subject matter. This allows for the modules to be taken and completed individually.

In order to meet regulatory compliance requirements, the courses are updated annually as these regulations and procedures develop and change.

These course modules are also available as stand-alone versions.

TARGET POPULATION

The Pelesys International Procedures course is designed for flight crew who operate in International Airspace and who require recurrent training.

REGULATORY COMPLIANCE

- ICAO / EASA / FAA / Transport Canada
- Maintenance compliance with IOSA standards

Versions Available:

- BAT (Initial) – North America
- BAT (Initial) – Worldwide
- BAT (Recurrent) – North America
- BAT (Recurrent) - Worldwide

Course Length:
7 hr 00 min

MODULE 01: Extended Twin-Engine Operations (ETOPS)

This module contains the information required for ETOPS operations, including:

- ETOPS definitions
- ETOPS regulations
- Background
- Benefit
- Diversion speed
- Diversion distance
- Area of Operations
- Adequate airports / aerodromes
- Suitable airports / aerodromes
- ETOPS alternate airports
- Equal Time Points (ETPs)
- ETOPS range limits
- Extended range area
- Maximum Diversion Time
- Maximum Diversion Distance
- Weather criteria
- Time of intended operation
- ETOPS Entry Point (EEP)
- ETOPS Exit Point (EXP)
- Weather planning minima for ETOPS alternate airports
- Alternate requirements
- Dispatch weather minimums
- Fuel planning
- Critical Fuel Scenarios
- Additional fuel requirements
- Computerized Flight Plan
- Use of departures / destinations as alternates
- Fuel planning scenarios
- MEL / CDL considerations
- ETOPS Verifications Flights
- Weather monitoring
- Loss of suitability
- Changes in magnetic variation
- Defect reporting
- In-flight alternate requirements
- Fuel monitoring
- ETOPS sector entry
- Decision making
- Extended Diversion Time Operations (EASA-based EDTO)

LEARNING TIME AND RUN TIME

This course has a learning time of: (run time plus additional time per page to account for understanding learning points)

- 50 min (EASA / FAA)

This course has a run time of: (the base time for each page to be completed)

- 24 min (EASA / FAA)

Exam Generation System (EGS) Banked Questions

The total amount of banked questions for this course is:

| Lesson Title | EASA Questions | FAA Questions |
|-------------------------------|----------------|---------------|
| Concepts | 3 | 3 |
| Definitions | 6 | 7 |
| ETOPS Planning Considerations | 7 | 7 |
| In-Flight Considerations | 4 | 4 |
| | 20 | 21 |

REFERENCE MATERIAL

This course provides the elements of ETOPS ground school training contained in:

ICAO

- Doc 7030

EASA

- SPA.MNPS.100
- SPA.MNPS.105
- MNPS and the procedures governing their application are published in the Regional Supplementary Procedures and National AIPs

FAA

- AC 91-70B
- AC 120-42B
- FAR 121 APP
- FAR 121 Sub H
- FAR 121 Sub U
- FAR 121.135
- FAR 121.624
- FAR 121.625
- FAR 121.631
- FAR 121.633
- FAR 121.646
- FAR 121.687
- FAR 121.7
- FAR 121.99
- FAR 25 Sub G
- FAR 25 Sub L
- FAR 25-1535

MODULE 2: Data Link Communication and Surveillance – ADS-B, ADS-C and CPDLC Operations

This module contains the information required for Data Link Communication and Surveillance based operations, including:

- CPDLC
- ADS-B
- ADS-C
- Ground service providers
- PBCS
- Flight planning requirements
- CPDLC components in Boeing / Airbus aircraft
- Typical MFD functions supporting CPDLC
- Crew alerting such as EICAS
- CDU displays and CPDLC
- System initialization
- Vertical request
- Lateral clearance
- Free text messages
- ATC reports
- Emergency messages
- Loss of communication
- ATC data link failure

LEARNING TIME AND RUN TIME

This course has a learning time of: (run time plus additional time per page to account for understanding learning points)

- 1 hr 30 min

This course has a run time of: (the base time for each page to be completed)

- 42 min

Exam Generation System (EGS) Banked Questions

The total amount of banked questions for this course is:

| Lesson Title | Airbus Questions | Boeing Questions |
|--|------------------|------------------|
| System Components / Ground Service Providers | 18 | 17 |
| General Procedures | 4 | 4 |
| CPDLC Equipment Installation | 4 | 4 |
| CPDLC Operation | 6 | 6 |
| ADS-A and ADS-B Equipment Installation | 3 | 3 |
| ADS-A and ADS-B Operation | 4 | 4 |
| | 39 | 38 |

REFERENCE MATERIAL

This course provides the elements of Data Link Communication and Surveillance ground school training contained in:

ICAO

- Data Communications Implementation Team Tower Data Link Services Controller Pilot Data Link Communication Departure Clearance Service (CPDLC-DCL) Flight Deck User Guide
- Doc 9869 Performance based Communications and Surveillance
- Global Operational Data Link Document (GOLD)

EASA

- Acceptable Means of Compliance (AMC) 20-24
- GM1 SPA.PBN.100 PBN Operations

FAA

- A056 – Compliance Guide
- AC 20-160A
- AC 90-114
- AC 90-117

MODULE 3: North Atlantic Tracks High Level Airspace (NAT HLA)

This module contains the information required for NAT HLA operations, including:

- North Atlantic High-Level Airspace (NAT HLA)
- Canada Minimum Navigation Performance Specification Airspace (CMNPS)
- CMNPS transition airspace
- Canada Required Navigation Performance Capability (RNP)
- Structure airspace in Canada
- WATRS Plus Airspace
- Reduced Vertical Separation Minimum (RVSM)
- Required Navigation Performance (RNP)
- PBCS Routes in the OTS
- ASEPS Trial Information and Operating Provisions
- North American routes (NAR)
- North Atlantic Routing Scheme (NERS)
- Arctic Control Area Tracks
- The use of routes in Northern Control Area Tracks
- The use of routes in Southern Control Area Tracks
- The use of routes in Western Atlantic Route Structure (WATRS)
- Blue Spruce Routes
- Aeradio
- Selective calling (SELCAL) and transponder
- HF theory
- Standard HF air-ground message types and formats
- Meteorological reports
- When-Able-Higher (WAH)

- Aeradio Operators
- Controller Pilot Datalink Communication (CPDLC)
- Oceanic clearance procedures
- Flight planning
- MEL Items
- Preflight actions
- Flight plan data entry
- Oceanic clearance
- Navigation accuracy
- Transponder operation
- MET reports
- Strategic Lateral Offset Procedures (SLOP)
- Position plotting
- Company specific Standard Operating Procedures related to contingencies
- Contingency Procedures in PBCS / ASEPS Airspace
- Special Emphasis Items for Half-degree Waypoint Insertion

LEARNING TIME AND RUN TIME

This course has a learning time of: (run time plus additional time per page to account for understanding learning points)

- 1 hr 30 min

This course has a run time of: (the base time for each page to be completed)

- 1 hr 09 min

Exam Generation System (EGS) Banked Questions

The total amount of banked questions for this course is:

| Lesson Title | Standard Questions |
|---|--------------------|
| Special Use Airspace Including NAT HLA and MNPS | 8 |
| Route Structures | 5 |
| Communications | 8 |
| Normal Procedures | 1 |
| Contingency Procedure | 4 |
| | 26 |

REFERENCE MATERIAL

This course provides the elements of NAT HLA ground school training contained in:

ICAO

- Doc 9613 Performance Based Navigation
- Doc 4444 PANS-ATM
- NAT Data Link Phase 2
- NAT Doc 007

- NAT OPS Bulletin 2017_001
- NAT OPS Bulletin 2018_003
- NAT OPS Bulletin 2018_004
- NAT OPS Bulletin 2018_005
- NAT OPS Bulletin 2018_006
- NAT OPS Bulletin 2019_001
- NAT OPS Bulletin 2019_002
- NAT OPS Bulletin 2019_003

EASA

- SPA.PBN.105

FAA

- AC 20-138
- AC 90-125
- AC 91-70B

TC

- AC 100-001
- AC 700-038
- AC 700-041
- Canada Flight Supplement
- CAR Standard 821 CMNPS
- Nav Canada AIC 30/12
- TP 14371
- TP 1820E Designated Airspace Handbook

NOTE:

Supplementary information regarding operations in NAT HLA Airspace is available in the High-Altitude Operations, PBN and GNSS courses, available as separate modules.

MODULE 4: Polar Operations

This module contains the information required for Polar Operations, including:

- Definitions – Polar Operations
- Route benefits and schedule integrity
- Time and fuel savings
- Regulatory authority and approval – TC, EASA, FAA
- Operational challenges
- Properties of fuel at very low temperatures
- Cloud point and pour point
- Fuel types
- Factors affecting fuel temperature
- Fuel systems and temperature measurement

- Fuel analysis
- Upper air temperature charts
- FMC indications
- Strategies for avoiding cold fuel – altitude and speed changes
- MEL considerations
- Space weather
- Solar flares – electromagnetic and geomagnetic radiation
- Solar activity scales
- Radio blackout
- Designated Polar Routes
- Random routes
- Charts and manuals
- ICAO phraseology
- VHF and HF communications
- HF in Russian airspace
- SATCOM
- CPDLC and ADS
- Position reporting
- Designated areas of magnetic unreliability
- Operation in true heading reference
- North Pole over – flights
- Use of metric units – altitude, distance, wind speed and visibility
- ASOA process
- Considerations for alternate and diversion airports
- ETOPS / non-ETOPS factors
- Safety equipment
- Airline recovery plan for passengers at diversion alternates
- Adequate and suitable airports
- Use of QNE / QFE
- Cold temperature altimetry
- Emergency diversions / descents
- Preferred airfields
- Polar gear
- Search and rescue
- Diversion recovery plan
- Operational Flight Plan
- This lesson presents flight planning requirements and use of the operational flight plan:
- Company policy
- Polar OFP review – fuel freeze point, MEL, route, weather and NOTAMs
- Plotting charts
- Sample POLAR flight – Cincinnati to Hong Kong
- Company policy
- Polar OFP review – fuel freeze point, MEL, route, weather and NOTAMs
- Plotting charts
- Sample POLAR flight – Cincinnati to Hong Kong

LEARNING TIME AND RUN TIME

This course has a learning time of: (run time plus additional time per page to account for understanding learning points)

- 1 hr 35 min

This course has a run time of: (the base time for each page to be completed)

- 41 min

Exam Generation System (EGS) Banked Questions

The total amount of banked questions for this course is:

| Lesson Title | Standard Questions |
|---|--------------------|
| Introduction | 4 |
| Operational Factors | 14 |
| Navigation and Communication Procedures | 10 |
| Alternates and Diversions | 4 |
| Abnormal and Emergency Procedures | 2 |
| Operational Flight Plan | 4 |
| | 38 |

REFERENCE MATERIAL

This course provides the elements of Polar Operations ground school training contained in:

ICAO

- Doc 9613 Performance Based Navigation
- Doc 4444 PANS-ATM

EASA

- GM1 SPA.PBN.100
- SPA.PBN.105

FAA

- 14 CFR Appendix P to Part 121, Requirements for ETOPS and Polar Operations
- AC 91-70B
- AC 120-42B
- [FAA Guidance Overview – Polar Routes](#)

TC

- TP 14371 Airman’s Information Manual AIM COM 3.5 Data Link Networks
- TP 14371 AIM COM 5.2 Global Positioning Systems (GPS)
- TP 14371 AIM RAC 3.16.9 Item 19: Supplementary Information
- TP 14371 MET 1.3.2 WAFS Charts
- TP AIM RAC 8.6.2 Altitudes and Direction of Flight

MODULE 5 – Pacific Operations

This module contains the information required for Pacific Operations, including:

- Definitions - Pacific Regions
- Pacific Region FIRs
- NOPAC CRS Route system track description and usage
- Oceanic Transition Routes (OTR) and NCA transition routes
- NOPAC CRS separation requirements
- NOPAC CRS reroute procedures
- PACOTS track development and designations
- PACOTS track issuance and validity times
- Gateway reservation list
- PACOTS track advisory procedures
- Track message examples
- User Preferred Routes (UPR)
- CEP track description and usage
- CEP track separation including "Mach Number Technique"
- South Pacific fixed tracks and UPRs
- South Pacific RNP-4 areas
- Australian Organized Track Structure (AUSOTS) description
- RVSM, RNP-10 requirements
- Aircraft position plotting requirements
- NOPAC CRS navigation cross-check requirements
- VHF and HF radio requirements and procedures
- HF SELCAL requirements
- Pacific region SATCOM coverage
- CPDLC description and procedures
- ADS description
- Metric weather unit conversions
- Degradation of navigation capability procedures
- Urgency call and emergency call protocol
- Unable to comply with current clearance procedures
- Engine failure or depressurization procedures
- ETOPS significant system failure
- Weather deviation procedures
- Wake turbulence and SLOP procedures

LEARNING TIME AND RUN TIME

This course has a learning time of: (run time plus additional time per page to account for understanding learning points)

- 45 min

This course has a run time of: (the base time for each page to be completed)

- 29 min

Exam Generation System (EGS) Banked Questions

The total amount of banked questions for this course is:

| Lesson Title | Standard Questions |
|---------------------------------|--------------------|
| Introduction | 1 |
| North Pacific | 7 |
| Central Pacific / South Pacific | 3 |
| Navigation and Communication | 6 |
| In-flight Contingencies | 7 |
| | 24 |

REFERENCE MATERIAL

This course provides the elements of Pacific Operations ground school training contained in:

ICAO

- Doc 9613 Performance Based Navigation
- Doc 4444 PANS-ATM

EASA

- GM1 SPA.PBN.100
- SPA.PBN.105

FAA

- AC 90-105A
- AC 90-117
- AC 91-70B
- OPSEC/MSPEC/LOA Guidance A056
- OPSEC/MSPEC/LOA Guidance B034
- OPSEC/MSPEC/LOA B036
- OPSEC/MSPEC/LOA B038
- OPSEC/MSPEC/LOA B039
- OPSEC/MSPEC/LOA B040
- OPSEC/MSPEC/LOA B041
- OPSEC/MSPEC/LOA B043
- OPSEC/MSPEC/LOA B044
- OPSEC/MSPEC/LOA B046
- OPSEC/MSPEC/LOA B050
- OPSEC/MSPEC/LOA B054
- OPSEC/MSPEC/LOA B055
- OPSEC/MSPEC/LOA B059
- OPSEC/MSPEC/LOA B342
- OPSEC/MSPEC/LOA B344
- Pacific Resource Guide for U.S. Operators

MODULE 6 – Reduced Vertical Separation Minima (RVSM)

This module contains the information required for RVSM operations, including:

- RVSM definitions
- Benefits of RVSM
- Level of safety
- RVSM implementation
- Operator approval
- Required aircraft equipment
- Maintaining approval
- Equipment accuracy
- Flight crew training
- RVSM capability
- ICAO flight plan
- Weather considerations
- External inspections
- Flight deck checks
- Height Monitoring Units (HMU)
- Altimeter errors
- Track offsets
- Autopilot operation
- TCAS operation
- Equipment faults
- ATC notification
- Defect reporting
- Metric RVSM airspace
- China RVSM airspace and Flight Level Allocation Scheme (FLAS)
- Conversion placard
- Flight planning
- Entering metric RVSM airspace
- Rounding errors
- Exiting metric RVSM airspace
- Altitude deviation
- Flight planning
- Exemptions without pre-approval
- Exemptions with pre-approval
- Aerial photography
- RVSM transitions
- Loss of RVSM capability
- Abnormal operations

LEARNING TIME AND RUN TIME

This course has a learning time of: (run time plus additional time per page to account for understanding learning points)

- 45 min

This course has a run time of: (the base time for each page to be completed)

- 32 min

Exam Generation System (EGS) Banked Questions

The total amount of banked questions for this course is:

| Lesson Title | Standard Questions |
|---|--------------------|
| RVSM General | 5 |
| Operational Requirements and Procedures | 10 |
| Metric RVSM Airspace | 3 |
| Non-RVSM Aircraft | 4 |
| | 22 |

REFERENCE MATERIAL

This course provides the elements of RVSM ground school training contained in:

ICAO

- ICAO Document 9574 - Manual on Implementation of a 300m (1000 ft) Vertical Separation Minimum Between FL290 and FL 410 Inclusive
- NAT DOC 007 – North Atlantic Operations and Airspace Manual – V 2017-1
- ATC Guidance Manual for RVSM Training in the CAR/SAM Regions

EASA

- ANC1 SPA.RVSM.105(c)

FAA

- FAA AC 91-85A – Operations in Reduced Vertical Separation Minimum (RVSM) Airspace
- AC 120-55
- Memorandum: Effect of ADS-B Out Installation on RVSM and TCAS II Certification, AIR-100 (10/07/16) (PDF)
- Advisory Circular 91-85A (Authorization of Aircraft and Operators for Flight in Reduced Vertical Separation Minimum Airspace) (7/21/16) (PDF)

TC

- AC 700-039
- AC 600-006
- AC 700-009
- Nav Canada AIC 27/06
- CAR Part VIII Section 3.0