**Content required to ensure an IR / CBIR course is PBN compliant**

|  |  |  |
| --- | --- | --- |
| **Training Content** | **Manual reference** |  |
| *Principles of PBN and RNAV including* |  |  |
| * Principles, definitions and PBN terminology |  |  |
| * Differing RNAV approach applications and equipment to be used |  |  |
| * RNAV approach design criteria and operating minima   + 2D approach operations including LNAV and LP   + 3D approach operations including LNAV/VNAV (BARO VNAV) and LPV |  |  |
| *System limitations* |  |  |
| * Performance limitations of various equipment types |  |  |
| * Fault detection and exclusion with Receiver Autonomous Integrity Monitoring (RAIM) |  |  |
| * Integration of RNAV information with Flight Management System, Horizontal Situation, Radio Magnetic and Course Deviation Indictors (as appropriate) |  |  |
| * System warnings, cautions, alerts and messages |  |  |
| *Pre-flight preparation* |  |  |
| * Web-based RAIM Predictions |  |  |
| * Powering up the system and self test function |  |  |
| * Display test monitoring |  |  |
| * Acquisition of satellites and preparation for navigation |  |  |
| * Checking aeronautical database currency and area of operational coverage |  |  |
| * System and display settings |  |  |
| * Assessment of system status and signal reception |  |  |
| * Data entry errors and correction Modifying existing routes / flight plans for use |  |  |
| * Checking and selection of departure and arrival routes (SIDs and STARs) |  |  |
| * Checking and selection of published instrument approach procedures |  |  |
| *Air Exercises* |  |  |
| * Confirmation of position and cross checks using, en-route navigation |  |  |
| * Monitoring system performance, satellite availability and signal strength |  |  |
| * System message display, caution messages and warning messages |  |  |
| * Selecting and flying RNAV SID’s and STAR’s |  |  |
| * Holding procedures |  |  |
| * Selecting instrument approaches from the database |  |  |
| * Routing directly to the Initial Approach Fix (IAF) and Intermediate Fix (IF) |  |  |
| * Vectors to Final Approach Track (FAT) and to the Final Approach Fix (FAF) |  |  |
| * Approach mode activation and indication |  |  |
| * Monitoring of HSI/CDI display scaling including the approach progress and vertical profile |  |  |
| * Missed approach procedures with and without RNAV navigation |  |  |
| * Confirmation of position and cross checks using, en-route navigation |  |  |
| *Air Exercises should also consider the implications of* |  |  |
| * Loss of Navigation and/or unavailability of RAIM function |  |  |
| * Loss of Satellite-based Augmentation System (SBAS) signal (where applicable) and loss of VNAV capability and reversion to LNAV minima (when possible) |  |  |
| * Disparity between RNAV and conventional Nav-aids |  |  |
| * Loss of Navigation and/or unavailability of RAIM function |  |  |

**Reference Material**

AMC 7 FCL.615(b) IR which details the theoretical knowledge and flight instruction for an IR with PBN.

CAP 773

PPL/IR manual; <https://www.pplir.org/bookstore>