



Performance Based Navigation for Part 91

As more and more New Zealand aerodromes 'go PBN', Part 91 pilots need to be assured their kit is approved for their particular aircraft. Here's how.

The following advice is for IFR pilots flying Part 91 *only*, and flying inside the New Zealand Flight Information Region, *only*.

If Your Aircraft Already Comes with a GPS Kit

Look for *Statements of Compliance* in the Flight Manual, or Flight Manual Supplement.

"These will say that the GPS unit in your particular aircraft," says CAA Airworthiness Engineer Alessio Caldara, "meets the installation, performance and functional requirements in accordance with the applicable airworthiness standards, and ICAO criteria/requirements."

If there's no Statement of Compliance, contact the aircraft manufacturer to issue you with one, or at least with a service letter documenting your aircraft's compliance.

Go to www.caa.govt.nz and download from the "Forms" page, CAA091-10 *Part 91 PBN Approval Request for NZFIR*.

To get a Letter of Approval from the CAA, complete the form and send it to the CAA for assessment and approval (standard hourly fees apply to that process), together with the other documents listed on the form. You also need to send the Statement of Compliance issued by the aircraft OEM (if need be).

"An important part of the application," says Airworthiness Engineer Clayton Hughes, "is to provide evidence of software configuration control, and evidence of a subscription to keep the navigation database up to date."

"Software configuration control can be carried out by the operator, or by a contracted third party."

After receiving a Letter of Approval from the CAA, the next step in PBN compliance is to get the pilot approved.

Remember both the aircraft and the pilot must be certified and qualified to conduct PBN operations.

The November/December 2016 issue of *Vector* covered how pilots can gain a PBN qualification through the addition of a GNSS rating. Further details can be found in Advisory Circular AC61-17 *Pilot licences and ratings – Instrument ratings*.

If You Have No Installed Kit

Alessio Caldara advises aircraft owners to check the market for Supplementary Type Certificates (STCs) applicable to their aircraft model.

"Also ensure that the STC is acceptable technical data for your aircraft type."

"If there's an STC available, go through a Part 145 maintenance organisation to get the kit installed. In such a case, part of the STC will be the Flight Manual Supplement with the Statement of Compliance in it from the manufacturer, along with the Instructions for Continuing Airworthiness."

"If there's no STC, it's a brand-new installation and you have to go through a Part 146 design organisation, which can issue an STC or a local modification."

If you're certified to do maintenance, and install the kit yourself, the work must be signed off by a suitably qualified Certificate of Inspection Authorisation (IA) holder.

If You Have 'Legacy' GPS-IFR Approval

Clayton Hughes says if an aircraft owner has a GPS unit approved by the CAA for GPS-IFR operations, that aircraft can fly RNAV1 procedures and RNAV2 routes.

"Existing RNAV (GNSS) approaches may also continue to be flown by operators with approval for non-precision approaches," says Clayton. Apply using CAA Form 2129.

"But there's a 'but'. Because of database issues, some units previously approved may now not be compliant with provisions for RNAV1 procedures."

There's a table of such non-compliant equipment on page 5 of Advisory Circular AC91-21.

"Unfortunately," says Clayton, "if your GPS is on that list, you cannot fly RNAV1, although you can fly RNAV2 and non-precision approaches."

For Engineers

"You should be using certified equipment that can be installed by way of STCs or the proper design change processes," says Alessio.

"If you're unsure what to do, you should at least contact the GPS unit's retailer or manufacturer."

For questions, email: avionics@caa.govt.nz. ■