

capability will be listed in the PBN box. The separate Equipment Requirements box will list ground-based equipment and/or airport specific requirements. On procedures with both PBN elements and ground-based equipment requirements, the PBN requirements box will be listed first. (See FIG 5-4-1.)

c. Other RNP Applications Outside the U.S. The FAA and ICAO member states have led initiatives in implementing the RNP concept to oceanic operations. For example, RNP-10 routes have been established in the northern Pacific (NOPAC) which has increased capacity and efficiency by reducing the distance between tracks to 50 NM. (See paragraph 4-7-1.)

d. Aircraft and Airborne Equipment Eligibility for RNP Operations. Aircraft eligible for RNP operations will have an appropriate entry including special conditions and limitations in its AFM, avionics manual, or a supplement. Operators of aircraft not having specific RNP eligibility statements in the AFM or avionics documents may be issued operational approval including special conditions and limitations for specific RNP eligibilities.

NOTE-

Some airborne systems use Estimated Position Uncertainty (EPU) as a measure of the current estimated navigational performance. EPU may also be referred to as Actual Navigation Performance (ANP) or Estimated Position Error (EPE).

**TBL 1-2-1
U.S. Standard RNP Levels**

RNP Level	Typical Application	Primary Route Width (NM) – Centerline to Boundary
0.1 to 1.0	RNP AR Approach Segments	0.1 to 1.0
0.3 to 1.0	RNP Approach Segments	0.3 to 1.0
1	Terminal and En Route	1.0
2	En Route	2.0
4	Oceanic/remote areas where performance-based horizontal separation is applied.	4.0
10	Oceanic/remote areas where performance-based horizontal separation is applied.	10.0

1-2-3. Use of Suitable Area Navigation (RNAV) Systems on Conventional Procedures and Routes

a. Discussion. This paragraph sets forth policy, while providing operational and airworthiness guidance regarding the suitability and use of RNAV systems when operating on, or transitioning to, conventional, non-RNAV routes and procedures within the U.S. National Airspace System (NAS):

1. Use of a suitable RNAV system as a Substitute Means of Navigation when a Very-High Frequency (VHF) Omni-directional Range (VOR), Distance Measuring Equipment (DME), Tactical Air Navigation (TACAN), VOR/TACAN (VORTAC), VOR/DME, Non-directional Beacon (NDB), or compass locator facility including locator outer marker and locator middle marker is out-of-service (that is, the navigation aid (NAVAID) information is not available); an aircraft is not equipped with an Automatic Direction Finder (ADF) or DME; or the installed ADF or DME on an aircraft is not operational. For example, if equipped with a suitable RNAV system, a pilot may hold over an out-of-service NDB.

2. Use of a suitable RNAV system as an Alternate Means of Navigation when a VOR, DME, VORTAC, VOR/DME, TACAN, NDB, or compass locator facility including locator outer marker and locator middle marker is operational and the respective aircraft is equipped with operational navigation equipment that is compatible with conventional nav aids. For example, if equipped with a suitable RNAV system, a pilot may fly a procedure or route based on operational VOR using that RNAV system without monitoring the VOR.