



JEPPESEN®

BRIEFING BULLETIN

DEN 01-J

REQUIRED NAVIGATION PERFORMANCE (RNP)

The continuing growth of aviation places increasing demands on airspace capacity and emphasizes the need for optimum utilization of available airspace. These factors, allied with the requirement for operational efficiency with the enhanced accuracy of current navigation systems, resulted in the RNP concept.

RNP applies to navigation performance within an airspace and therefore affects both the airspace and the aircraft. RNP is intended to characterize an airspace through a statement of the navigation performance accuracy (RNP type) to be achieved within the airspace. The RNP type is based on a navigation performance accuracy value that is expected to be achieved at least 95 percent of the time by the population of aircraft operating within the airspace.

Most aircraft operating in the RNP environment carry some type of RNAV equipment. The carriage of RNAV equipment may even be required in some regions or States. RNAV operations within the RNP concept permit flight in an airspace within prescribed accuracy tolerances without the need to fly directly over ground based navigation facilities; the application of RNAV techniques in various parts of the world has already been shown to provide a number of advantages over more conventional forms of navigation and to provide a number of benefits. For more information and equipment requirements, please refer to Air Traffic Control pages 551 (Required Navigation Performance [RNP], Area Navigation [RNAV]).

Route designators will indicate the type of the route, that is, RNAV/RNP or conventional. For more information, please refer to Enroute page 15, Designators Of ATS-Routes And Its Use In Voice Communications.

RNP TERMS AND ABBREVIATIONS

Required Navigation Performance Level or Type (RNP-X). A value, in nautical miles (NM), from the intended horizontal position within which an aircraft would be at least 95 percent of the total flying time.

Required Navigation Performance (RNP) Airspace. A generic term designating airspace, route(s), leg(s), operation(s), or procedure(s) where minimum required navigational performance (RNP) has been established.

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Actual Navigation Performance (ANP). A measure of the current estimated navigational performance. Also referred to as Estimated Position Error (EPE).

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Lateral Navigation (LNAV). A function of area navigation (RNAV) equipment which calculates, displays and provides lateral guidance to a profile or path.

RNP SOUTH CHINA SEA

The route structure within the South China Sea airspace and associated changes to navigation and flight notification requirements is in support of reduced lateral separation minimums between aircraft operating on certain designated air traffic service (ATS) routes. Most of the existing conventional ATS routes in the South China Sea area will be replaced with RNAV routes. Segments of the routes are RNP 10. These changes will appear on the Far East High/Low Enroute charts series, effective 1 NOV 01.

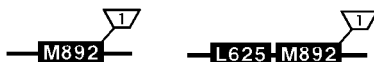
RNP CHART APPLICATION WORLDWIDE

When the State authorities assign RNP type values to ATS routes, regions, or States, RNP type value will appear on the enroute charts according to the examples shown below.

RNP cross-reference flag.





RNP cross-reference flag attached to route designator.



RNP cross-reference flags at airspace fix where RNP type changes.



RNP cross-reference to RNP type note positioned within chart panel.

RNP TYPE AND MINIMUM ALTITUDE	
	RNP 10 FL290
	RNP 12.5 FL290

(Continued)

REQUIRED NAVIGATION PERFORMANCE (RNP)

(Continued)

RNP type note positioned on chart end panel when RNP cross-reference flags are depicted on a chart that encompasses several States with different RNP types.

REQUIRED NAVIGATION PERFORMANCE (RNP)

Route RNP type and minimum altitude are depicted on the chart.

RNP type note positioned on chart end panel when RNP cross-reference flags are depicted on the chart when States have different RNP types and a blanket statement for States that have a common RNP type.

REQUIRED NAVIGATION PERFORMANCE (RNP)

Route RNP type and minimum altitude are depicted on the chart.

ANY STATE: All routes are RNP 4 at and above FL290 unless otherwise depicted on the chart.

RNP type note positioned within the chart note, front-end panel, when an enroute chart series covers a State.

Within the continental X.Y., the airways shown on these charts at and above 18,000' MSL are effective up to FL450. Within Terps State, the airways and routes shown are effective at and above 18,000 MSL to unlimited. All airways within the X.Y. are RNP 4 at and above FL290 unless otherwise depicted on the chart.

RNP type note positioned within the chart note, front-end panel, when the entire airspace is declared as RNAV above a certain altitude.

LIMITS AND CLASSIFICATION OF DESIGNATED AIRSPACE		
	CLASS	LOWER – RNAV (RNP) - UPPER
XY Country	(A, G)	GND- FL95 (5) – FL245
XY Country	(A, G)	GND- FL100 (5) – FL245
XY Country	(A, G)	GND- FL200 (5) – FL285

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26 OCT 01

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