RNP AR
Approach Parameter Chart

Section	Compared Parameter	Procedure Use	Significance	Tolerance	Amendment Required in 8260.19D	Comment
Column Explanation	This column provides the name of the parameter to be compared, e.g., threshold crossing height, vertical angle, waypoint location.	This column explains the purpose of the parameter, (e.g., anchor the vertical path, anchor the lateral path), constraint the location of the path, etc.	This column provides the significance of the parameter to the actual operation of the aircraft on the procedure if it were to be incorrect or out of tolerance	This column provides the largest cycle to cycle change in the parameter that may safely be accepted without concern when validating the procedure. The numerical tolerances are all plus or minus values.	This column provides the parameter that would require issuance of a procedure amendment under rules of 8260.19D. For non-numeric parameters, no change is allowed. Blank if the parameter does not appear in 8260.19D	
General	Airport Name	Location	Similar named procedures at other airports	Exact match	Yes	
General	Procedure ID	Access to correct procedure in flight	Wrong routing if incorrect	Exact match	Yes	Naming: the translation of the packed data after unpacking means the same thing as the 8260 procedure name, procedure ID from 8260.19D. We are only considering RNP AR
Routes & Missed Approach	Transition	Adds ways to access the procedure	Wrong routing if incorrect	Exact match	Yes (Based on change {read "add"} to	

Section	Compared Parameter	Procedure Use	Significance	Tolerance	Amendment Required in 8260.19D	Comment
Routes & Missed Approach	Path Terminators	Define the lateral path between waypoints	Changes could relocate the path between terminators	Exact match	Yes (Based on the fact that this would change the course.)	
Routes & Missed Approach	Magnetic Course	Define the lateral path when certain path terminators are used, e.g., Cx, Vx, etc.	Changes could relocate the path between terminators	1 degree		
Routes & Missed Approach	Recommended NAVAID	Determines conversion of magnetic to true course for certain legs types, e.g., Cx	Erroneous ground track	Exact match		
Routes & Missed Approach	Waypoint Name	Anchor the lateral path	Wrong routing if incorrect	Exact match	Yes	
Routes & Missed Approach	Waypoint Sequence	Orders the lateral path	Wrong routing if incorrect	Exact match	Yes (Based on the fact that this would change the course.)	

Section	Compared Parameter	Procedure Use	Significance	Tolerance	Amendment Required in 8260.19D	Comment
Routes & Missed Approach	Turn Direction	In some cases affects the path, for instance a DF to a point 180 out from the path	Differences could affect obstacle clearance	Exact match	Yes (Based on the fact that this would change the course.)	Applies particularly to fly-by and fly-over transitions between leg types. Application to RF leg type is implementation dependent since RF turns are over specified (direction, center, end points and radius) and all four are not necessary to define the turn although they must be consistent.
Routes & Missed Approach	Turn Radius	Exact placement of the lateral path through a turn	Differences could affect obstacle clearance or separation	0.01 NM		Applies only to RF
Routes & Missed Approach	Turn Center Location	Exact placement of the lateral path through a turn	Depending on systems, this may affect turn location	60 feet		Applies only to RF. See NOTE in waypoint location comments.
Routes & Missed Approach	Turn Start / End Location	Exact placement of the lateral path through a turn	Depending on systems, this may affect turn location	60 feet		Applies only to RF. See NOTE in waypoint location comments.

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Routes & Missed Approach	Fly-over / Fly-by designation	Air traffic constraints or obstacle constraints	Differences could affect obstacle clearance or separation		Fly-over / Fly-by designation	Air traffic constraints or obstacle constraints
Routes & Missed Approach	RNP value	Performance required, alert threshold for cockpit	Improper alerting for crew, OEA potential violation	Exact match	Yes (Based on a change to minimums)	This parameter is an example of one where a comparison failure can be mitigated operationally and the procedure does not have to be invalidated for the database cycle.
Routes & Missed Approach	Altitude Constraint Type	Vertical path construction limits	AT, AT Above, AT Below, Window	Exact match	Yes (Considered a change to the altitude)	
Routes & Missed Approach	Altitude Constraint Values	Vertical path construction limits	Changes could result in loss of separation	10 feet	Yes (Considered a change to the altitude)	

Section	Compared Parameter	Procedure Use	Significance	Tolerance	Amendment Required in 8260.19D	Comment
Routes & Missed Approach	Path Angles	Anchors vertical path to waypoint or LTP	Safety of flight / obstacle clearance	0.01 degree	Yes, because it is tied to changes of either the TCH or the altitude at the PFAF	Path Angles
Routes & Missed Approach	Speed Constraint Type	Controls the meaning of the constraint	May define the exact speed, or a limit, or a minimum	Exact match	Yes, where charted	**CAUTION:** The three types are only available in one current generation FMS. Speed constraints are treated as "AT or BELOW" by the others. Some systems do not handle speed constraints automatically. **Note:** See Maximum Airspeeds throughout the Radius to a Fix Leg Segment below.
Routes & Missed Approach	Waypoint name	Define the lateral (and sometimes vertical) path	Changes could drastically move / change the path	Exact match	Yes	

Section	Compared Parameter	Procedure Use	Significance	Tolerance	Amendment Required in 8260.19D	Comment
Routes & Missed Approach	Waypoint location (latitude & longitude)	Geographically anchor the path	Differences could affect obstacle clearance	60 feet	Yes, if a change to the chart is necessary or a change is necessary for the FAS Data Block of an LPV procedure.	The distance measure for all "location" type data refers to the radial distance between the airborne data location and the source data location. An acceptable method of calculation is provided for reference with this matrix, although others are possible. **Note**: It would also be acceptable to determine the 60 foot equivalent in delta latitude/longitude at the equator and apply the difference test using that threshold to the latitude and longitude of the two locations; this difference to be less than 0.4 arc seconds in either (or both) directions.
Routes & Missed Approach	Runway Threshold Location	Anchors lateral and vertical path on final approach	Safety of flight	25 feet	Yes	See Note in waypoint location comments. Latitude / longitude difference to be less than 0.18 arc seconds

Section	Compared Parameter	Procedure Use	Significance	Tolerance	Amendment Required in 8260.19D	Comment
Routes & Missed Approach	Runway Threshold Elevation	Anchors lateral and vertical path on final approach	Differences affect vertical obstacle clearance	1 foot	Yes	
Routes & Missed Approach	Threshold crossing height	Anchors lateral and vertical path on final approach	Differences affect vertical obstacle clearance	1 foot	Yes	
Routes & Missed Approach	Runway Name (18L, 34R)	Chart cross check	Serves same purpose as a waypoint name	Exact match	Yes	

Maximum Airspeeds throughout the Radius to a Fix Leg Segment

(Indicated airspeed in knots by Aircraft Category)

Flight Segment	CAT A	CAT B	CAT C	CAT D	CAT E
Initial & Intermediate (IAF to FAF)	150	150	250	250	250
Final (FAF to DA)	90	120	140	165	As Specified
Missed Approach (DA to missed approach holding point)	110	150	250	265	As Specified

Note: Do not exceed the maximum airspeeds shown in Table throughout the RF leg segment. A missed approach prior to Decision Altitude (DA) requires maintaining the segment speed to the DA and then observing any speed limitations specified for the missed approach segment.