

FLIGHT OPERATIONS ALERT

Advanced RNP (A-RNP) Departure Procedures

Purpose:

This memo introduces Advanced RNP (A-RNP) departure procedures. The first A-RNP departure procedure (APRES 2) was introduced to the company route network in Eagle, Colorado in fall of 2018.

Background:

The FAA is developing A-RNP procedures in the national airspace system. The procedure's objective is to optimize arrival, approach and departure procedures, and implement advantages of RNP navigation for more aircraft. These objectives are achieved by reducing aircraft certification requirements compared to those required for RNAV(RNP)/RNP(AR) approach procedures.

NOTE:

A-RNP procedures will not be designed with an RNP value of less than 0.3 RNP.

Requirements

All MidContinent Airlines aircraft are A-RNP qualified.

To obtain A-RNP authorization, the following FMS capabilities must exist:

- Parallel offset
- RNP scaling (ability for the pilot to enter an RNP value or allow the navigation database to set the RNP value in the FMS of less than 1.0)
- RF (radius to fix) leg capability

NOTE:

Unlike RNAV(RNP)/RNP(AR) procedures, specific aircraft certification is not required for A-RNP.

Chart Notes

Advanced RNP procedures may be identified by the inclusion of **"A-RNP required."** In the chart notes. (Note 1)

KEGE/EGE EAGLE CO REGL (Special) 10 AUG 18 10-3G Eff 16 Aug		EAGLE, COLO RNAV SID
DENVER Center 128.65	Apt Elev 6547'	Trans level: FL180 Trans alt: 18000 1. A-RNP required. 2. RNP 0.3 required from DER. 3. GPS required. 4. RF required. 5. Rapidly rising terrain within 1.5 miles WEST of the airport and within .25 miles SOUTH of the airport. 6. Obstacle protection not ensured for turns delayed beyond ONLOE. 7. Use of this procedure requires specific authorization by FAA Flight Standards.

0.3 navigation performance is required from **DER (Departure End of Runway)** (Note 2)

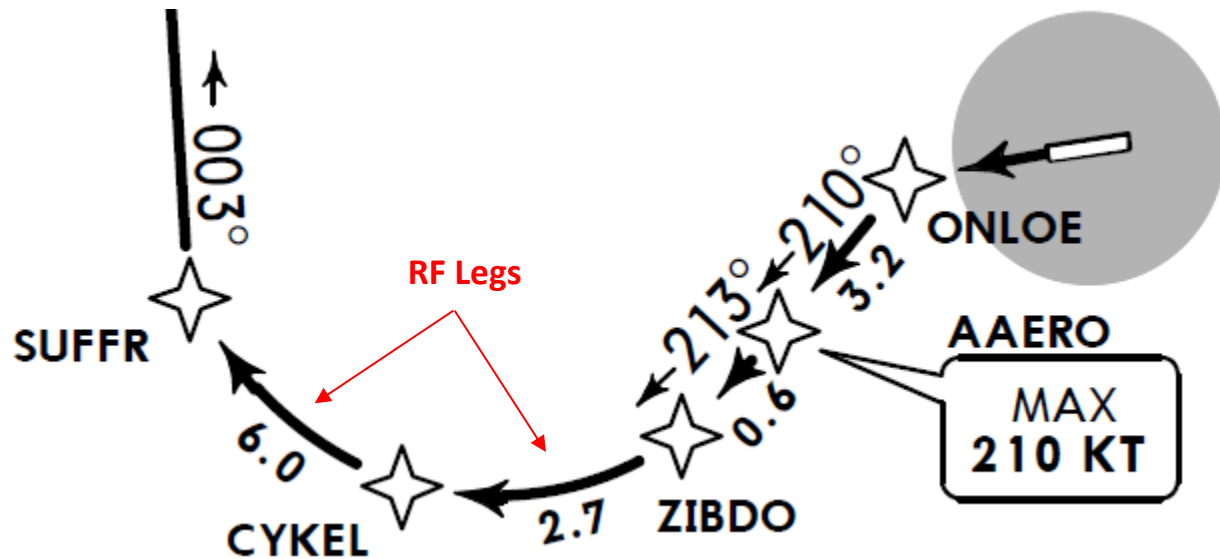
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Check chart notes to determine if **GPS** is also required (Note 3)

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RF required – A key component to RNP procedures are curved flight tracks. Constant radius turns around a fix are referred to as RF legs (or Radius-To-Fix legs). These turns are encoded into the navigation database and allow the aircraft to avoid critical areas of terrain or airspace that would otherwise be limited by traditional linear flight paths. (Note 4)

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Example of RF legs**Preflight Procedures**

In addition to normal FMS preflight procedures, verify:

- The required RNP in the appropriate RNP field (insert if necessary)
- The FMS flight plan/route matches the charted distance and track along with any airspeed limitations

Navigation Downgrade Alert

If a navigation downgrade alert is received:

Prior to takeoff: Do not takeoff using the A-RNP departure procedure
After takeoff: Continue on the procedure and advise ATC as soon as practical

Flying an A-RNP Procedure

The same principles apply when flying an A-RNP procedure as they do for an RNAV (RNP)/RNP(AR) procedure.

Advise ATC as soon as possible if unable to comply with the requirements of an RNP procedure by stating "Loss of RNP capability."

Cross Track Error

Unlike typical departure procedures, flying an A-RNP SID requires close attention to cross track error deviations. Take necessary actions to correct cross track errors by disconnecting autopilot and correcting heading to remain within the required navigational performance stated on the chart.

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Apt Elev 6547'

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**APRES 2 RNAV DEPARTURE
(APRES2.APRES)
(RWY 25)**

