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Special Update - New STARs Effective March 5

DC Pilot's Perspective



Hello fellow DC area aviators. We have some changes coming up that need to be highlighted. On March 5th, 8 new STARs (Standard Terminal Arrivals) will go into effect, one existing STAR and one existing SID (Standard Instrument Departure) will be updated, resulting in 37 of the eventual 57 procedures changes being effective in the Washington airspace.

Most of us are aware that the RNAV STARs from the west have been in place for some time now. March 5th brings new and updated procedures from the south and east. Many of the new procedures are designed as OPDs (Optimized Profile Descents) and are typically utilized with the increasingly familiar "Descend Via" clearances. *(We plan to have a controller from Potomac Consolidated TRACON-(PCT) give us a presentation of "Climb Via" and "Descend Via" clearances at the April 30 Safety Standdown which should be very enlightening. Don't miss it.)*

The *new* procedures are:

DCA: CAPSS 1, DEALE 1

IAD: CAVLR 1

BWI: MIIDY 1, RIPKN 1

ADW: VUDOO 1, SPISY 1

Area Reliever airports: TRSTN 1

The **updated** procedures are both at BWI and are:

STAR: RAVNN 4

SID: TERPZ 4

We will be saying goodbye to the *BILIT*, *OJAAY*, and *BARIN STARs* as they will be N/A on March 5th.

Heads Up

There are a few things that you will want to be aware of regarding these changes. As said already, most of these deal with south and east traffic, and the addition of some OPDs will take some adjustment as the pilots and controllers get used to the new parameters and procedures.

FAA Traffic Management has put out a notice that they may publish **traffic management initiatives (TMIs)** dynamically depending on system demand and backlog for up to 14 days after the initial implementation on March 5th. The purpose is to slow things down during heavy volume periods as people become familiar with the new procedures.

A first for our area and, in fact a first for the nation, will be the use of what are being termed “**stacked OPDs**”. ATC is excited to implement the RAVNN 4 which will be “descending on top of” the CAPSS 1 traffic. Vertical constraints are separated by 2000 feet between the profiles to add an extra margin of safety even though 1000 feet is all that is required. Overall, most of these procedures are fairly routine and should pose no issues for operators, but they will make the flow into DCA and BWI more efficient.

There are some **letters of agreement** between ZDC and PCT delineating who will assign “descend via” clearances and runway transitions:

- DESCEND VIA RNAV STARs:
 - CAPSS, FRDMM, TRUPS (DCA), CAVLR (IAD), RAVNN (BWI) RNAV STARs:
 - Washington ARTCC (ZDC) will issue the descend via clearance **and** runway transition via a **landing direction**
 - Potomac TRACON (PCT) will issue the **landing runway**
 - ZDC: “Descend via the CAPSS ONE Arrival, landing south”
 - PCT: After initial contact, “Runway one nine”
 - DEALE, MIIDY, RNAV STARs:
 - PCT will issue **both** the descend via clearance **and** runway transition
 - “Descend via the DEALE ONE Arrival, Runway 19”

Other STARs will not utilize “descend via” clearances.

I know there is a lot of data here, but there are a few more things I need to emphasize.

Top and Bottom altitudes.

Top and bottom altitudes are published on SIDs and STARs and are commonly used with climb via and descend via clearances. Everyone should be aware of the top and/or bottom altitude published on the procedure you are flying. When you receive a climb via the SID or Descend via the STAR clearance, you are only cleared vertically to the published top or bottom altitude on that procedure as applicable until receiving further instructions from ATC.

For example, the new CAPSS 1 RNAV STAR will have two different bottom altitudes published depending on the landing direction at DCA. For a south flow the bottom altitude will be 6000’. North flow will have a bottom altitude of at or above 8000’.

In this case, when landing north at DCA the transition does tie to the approach at KATR N intersection. If pilots load the approach into their FMS, their map displays may show the altitude for the ILS at KATR N (2500') and they are **NOT** cleared to descend to that altitude unless further cleared by ATC. It is a human factors issue that can set you up if you are task saturated or otherwise distracted. Imagine you are cleared to descend via the CAPSS 1 and to expect the ILS 1, but you have not been cleared for the approach. You are dutifully following your altitudes and speeds on the descent and see 2500' at KATR N which appears to be the last point on the CAPSS1. There is an altitude on your map display next to KATR N of 2500' because you loaded the approach and it is the IAF. GOTCHA. Time to fill out the NASA form. Unless you have been cleared for the approach or some other additional clearance from ATC, you can't leave that bottom altitude of 8000'.

The next potential *gotcha* scenario involves the **TERPZ4 RNAV SID**. Lots of changes there and I encourage ye who fly from BWI to study this closely. ATC will begin using "**off the ground**" RNAV for many of the departure runways at BWI and that is depicted in the updated procedure. The **top altitude for the TERPZ4 is 4000'**. It is currently 4000', but is potentially confusing as there are a number of altitude constraints published that are above 4000'. If you receive a clearance to climb via the SID with your initial departure clearance from Baltimore Tower, you are only cleared to the top altitude of 4000'. The follow on instructions from PCT once airborne make a huge difference. We typically receive a vector and a "Climb and Maintain 17000". That cancels the follow on vertical restrictions. If they say "Climb Via SID Except Maintain 17000" or "Climb and Maintain 17000 Comply with Restrictions", then we must follow the restrictions published prior to reaching the newly assigned altitude. To reiterate, a "climb via the SID" clearance from Baltimore Tower only takes you to 4000' on the TERPZ SID. Anything published after that is contingent upon the further instructions you receive from PCT.

If that isn't confusing enough, the new TERPZ4 has one **major difference** that in my opinion is a mistake waiting to happen. **WONCE and TERPZ** waypoints have been **intentionally reversed!** What used to be WONCE on the TERPZ 3 is now TERPZ on the TERPZ 4, and what used to be TERPZ on the TERPZ 3 is now WONCE on the TERPZ 4. I know there is a specific reason that the FAA elected to do this, and though I don't understand it in enough detail to explain it, I know it has to do with the rules of how they construct SIDs and initial segments as well as the naming convention. I actually think it makes more sense in the new iteration, but that doesn't change the potential to generate errors due to the former configuration. Hopefully getting the word out to everyone will mitigate any mistakes, but you could easily see how this could be confusing to those who are used to the former layout, especially if they were just a day late getting their FMS database updated.

If you get cleared via the TERPZ 4 and you only have the TERPZ 3 available, fess up and do not accept the clearance. Just say you are unable and they will give you a vector departure. These two procedures differ significantly and you can't try to fake till you make it. I know professionals never would, but just be aware that this is a major change that you must be prepared for.

I hope this helped. My apologies for the length, but these changes to our airspace are significant and they will be out this week. Please spread this information around as much as possible. If you have any questions please let me know and I will do my best to get an answer as quickly as possible. Fly safe.

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