

## NAVAID Service Volumes (DME, VOR and TACAN)

### MEETING 19-02

Dale Courtney, FAA/AJW-292, [provided an update](#) on upcoming changes to NAVAID service volumes. The VOR MON Program is in the process of implementing two new VOR standard service volumes (SSV) in order to achieve VOR service within 70 nautical miles versus 40 above 5,000 feet AGL. The new NAVAID codes are VOR Low (VL) and VOR High (VH). Along with that effort, the NextGen DME Program is going to implement two new DME SSVs to support DME-DME-RNAV service. This change will require the establishment of two new DME NAVAID codes: Expanded Low (DL) and Expanded High (DH). The new NAVAID SSVs will be in addition to the Legacy SSVs of Terminal (T), Low (L) and High (H) that will continue to be maintained. ([See Slides 6-8](#))

Dale said this effort is still in discussion and asked the audience for input. He wants to determine what challenges exist for the implementation of SSVs for collocated NAVAIDs. He also wants input on the best way to source the SSVs in the National Airspace System Resource (NASR) database.

Scott Jerdan, FAA/AJV-A310, asked if the two components of a collocated NAVAID, e.g., a VOR/DME, could potentially have two different SSVs. Dale replied that yes, a VOR/DME could have one SSV for the VOR portion and a different SSV for the DME portion. Scott said that significant changes to NASR will be necessary in order for SSVs to be assigned separately to each NAVAID component. This database change will require lead time to accomplish and AJV-A will need to know as soon as possible what exactly is necessary to support the change. Dale shared that discussions were still in process to determine the database requirements.

Valerie Watson, FAA/AJV-A250, asked Dale for timeline of these changes. Dale responded that they do not have a hard timeline. They are first working to ensure that Flight Management Systems will work correctly with the new service volumes. Once that is solved, they can begin work on NASR changes. Scott reiterated that NASR changes take a long time to implement and coordination still needs to be done to determine exactly what changes will be required.

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### MEETING 20-02

Dale Courtney, FAA/AJW-292, presented a [briefing](#) on upcoming changes to NAVAID service volumes. He explained the VOR MON Program is in the process of implementing two new VOR standard service volumes (SSV) in order to achieve VOR service within 70 nautical miles above 5,000 feet AGL. The new NAVAID codes are VOR Low (VL) and VOR High (VH). Along with that effort, the NextGen DME Program is going to implement two new DME SSVs primarily to support DME-DME RNAV service. This change will require the establishment of two new DME NAVAID codes: Expanded Low (DL) and Expanded High (DH). The new NAVAID SSVs will be in addition to the legacy SSVs of Terminal (T), Low (L) and High (H) that will continue to be maintained.

Dale reported that the National Airspace System Resource (NASR) change to support the databasing of VOR and DME service volumes separately is scheduled to be implemented in late spring 2021. He said that ARINC 424 also needs to adopt new standards so the new service volumes can be used. He said that the new service volumes will be available next summer after testing is completed.

Rich Boll, NBAA, asked if the DME SSV coverage is being increased to support DME-DME-IRU navigation. He is concerned that there may not be enough DMEs in the Terminal and Enroute environment to support a DME-DME solution in the event of a GPS outage. Dale said that the future of the National Airspace System (NAS) is primarily enabled by GPS. He said there are two backup solutions in the absence of GPS: VOR MON and DME-DME capability. The infrastructure is being designed to support DME-DME navigation above FL180 and FL240 in the western mountain regions. It will also support arrivals and departures at the busiest 62 airports. Additionally, the network is being designed for operationally significant arrivals and departures to have redundant coverage for DMEs. There are still some airworthiness questions for those aircraft without IRU that will need to be worked out. Rich pointed out that newer aircraft are not being equipped with DME-DME.

Bruce McGray, FAA/AFS-420, said that in the past, there were limits on the number of aircraft that can receive the signal from a DME at the same time. Dale said that the newer DME equipment can accommodate more aircraft. The problem with that is it can then begin to interfere with GPS capabilities. Dale pointed out that this is not an issue with the vast majority of DMEs. Bruce suggests that Dale reach out to industry regarding the impacts of these changes on future avionics equipment. John Barry, FAA/AIR-6B1, suggested that Rich consider joining RTCA Special Committee 227 which is currently updating the standards for Flight Management Systems (FMS). Heidi Williams, NBAA, agreed that industry needs to have greater involvement. With regard to joining the RTCA Special Committee, she commented that these issues reach beyond a change to the standards.

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## MEETING 21-01

Dale Courtney, FAA/AJW-263, presented a [briefing](#) on upcoming changes to NAVAID standard service volumes (SSVs). He explained the VOR MON Program is in the process of implementing two new VOR SSVs in order to achieve VOR service within 70 nautical miles above 5,000 feet AGL. The new VOR NAVAID codes are VOR Low (VL) and VOR High (VH). Along with that effort, the NextGen DME Program is going to implement two new DME SSVs primarily to support DME-DME RNAV service. This change will require the establishment of two new DME NAVAID codes. The new DME NAVAID codes are Expanded DME Low (DL) and Expanded DME High (DH). The new NAVAID SSVs will be in addition to the legacy SSVs of Terminal (T), Low (L) and High (H) that will continue to be maintained.

Dale reported that the National Airspace System Resources (NASR) database change to support the population of VOR and DME service volumes is scheduled to be released on 7/21/2021. He said that the initial deployment will copy existing SSV values. The new service volumes are planned to be populated

as early as the next 56-day chart cycle. Dale showed images of how the information is currently shown and how it will be shown on the new interface on eNASR ([slides 6-9](#)), as well as existing and new DME service volumes ([slides 10-12](#)).

Valerie Watson, FAA/AJV-A250, explained how the changes will be published in the Chart Supplement and on the IFR Enroute Charts. She presented a [slide](#) of the SSV table from the legend of the Chart Supplement that will be expanded to include the new SSVs. She also showed a sample Airport/Facility Directory entry and Enroute chart NAVAID facility box. She explained that VORTACs and VOR/DMEs will include two SSVs with the VOR SSV listed first. She also said that explanatory information will be added to the Chart Users' Guide.

*Post-Meeting update: The population of the new SSVs in NASR is now projected to be December 2, 2021.*

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## MEETING 21-02

Dale Courtney, FAA/AJW-263, [briefed](#) new NAVAID Standard Service Volume (SSVs) designations. He explained the VOR MON Program is in the process of implementing two new VOR SSVs in order to achieve VOR service within 70 nautical miles above 5,000 feet AGL. The new VOR NAVAID codes are VOR Low (VL) and VOR High (VH). Along with that effort, the NextGen DME Program is implementing two new DME SSVs primarily to support DME-DME RNAV service. The new DME NAVAID codes are DME Low (DL) and DME High (DH). The new NAVAID SSVs are in addition to the legacy SSVs of Terminal (T), Low (L) and High (H) that will remain in use.

Dale explained that the National Airspace System Resource (NASR) database has been updated to accommodate the new SSVs. Effective September 9, 2021, an "SSV" field was added to the TACAN/DME portion of combined NAVAID records in order to separate the SSVs for the component NAVAID parts. Existing NAVAID SSV records are currently reflected in the new field. Starting with the December 2, 2021 effective date, the new SSV types will begin to be populated. The FAA plans to add approximately 25 new SSVs per chart cycle. The examples on [slides 6-9](#) show the revised eNASR NAVAID records.

Valerie Watson, FAA/AJV-A250, showed [examples](#) of the charting and product changes resulting from the implementation of the new SSV types. Impacted products include the IFR Enroute Low and High Altitude Charts, the Chart Supplement Airport/Facility Directory (A/FD) legends and A/FD airport entries, and the explanatory guidance in the Chart Users' Guide.

John Collins, ForeFlight, asked if coordination of FAA Order 7110.65Z guidance regarding limitations on clearances based on service volumes had been done. John said he is concerned the service volume limitations may unnecessarily block some clearances. Dale said he will look at the language in the Order but, in terms of access in and out of airports, he doesn't think this will impact clearances because the new SSVs start at 5,000' above ground level.