

**AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 16-01 – April 28, 2016**

RECOMMENDATION DOCUMENT

FAA Control # 16-01-326

Subject: FAA Order 8260.46F, “Top Altitude” Charting Constraints

Background/Discussion: It appears there is confusion how “Top Altitudes” should be charted when a procedure serves multiple airports based on the language contained within the FAA Order 8260.46F, Departure Procedure Program. Under paragraph 2-1-3-e (1) (f), it states; “Enter the “Top Altitude(s)” on Form 8260-15B for SIDS when provided by ATC. No more than two “Top Altitudes” are allowed per procedure. The variations permitted are specified in appendix d, section 2, and E, section 1. “Top Altitudes” 18,000 feet MSL and above must be specified as a “Flight Level”. The “Top Altitude” must be at or above all altitude restrictions specified along the departure route and transitions.”

Under Appendix D (Conventional SIDS), section 2, paragraph 10 (c) (1) it states; “For a single airport, specify the “Top Altitude(s)” specific to a given runway(s) or transition(s), as applicable.

Examples: CHART: TOP ALTITUDE: 16000, or CHART: TOP ALTITUDE RWY 8/25/34L/34R/35L/35R: 16000; RWY 16L/16R/17L/17R: 12000, or CHART: TOP ALTITUDE: STEVE AND DANNO TRANSITIONS: FL230; CHNHO AND KONO TRANSITIONS: FL180, or CHART: TOP ALTITUDE: ASSIGNED BY ATC.”

Section 2, paragraph 10 (c) (2) states: “For multiple airports, in addition to paragraph 10.c(1), include the airport names and/or specific runways when “Top Altitudes” differ between airports and/or specific runways.

Examples: Starship Muni - CHART: TOP ALTITUDE: 16000, Anywhere Intl - CHART: TOP ALTITUDE RWY 8/25/34L/34R/35L/35R: 16000; RWY 16L/16R/17L/17R: 12000, and Mayfair Metro - CHART: TOP ALTITUDE 12000. If all airports share a common “Top Altitude,” then state as such: All Airports - CHART: TOP ALTITUDE: 12000.

Under Appendix E (RNAV SIDS), section 1, paragraph 10 (b) (1) states; “For a single airport, specify the “Top Altitude(s)” specific to a given runway(s) or transition(s), as applicable.

Examples: CHART: TOP ALTITUDE: 16000, or CHART: TOP ALTITUDE RWY 8/25/34L/34R/35L/35R: 16000; RWY 16L/16R/17L/17R: 12000, or CHART: TOP ALTITUDE: STEVE AND DANNO TRANSITIONS: FL230; CHNHO AND KONO TRANSITIONS: FL180, or CHART: TOP ALTITUDE: ASSIGNED BY ATC.

Under section 2, paragraph 10 (b) (1) states: “For multiple airports, in addition to paragraph 10.b(1), include the airport names and/or specific runways when “Top Altitudes” differ between airports and/or specific runways.

Examples: Starship Muni - CHART: TOP ALTITUDE: 16000, Anywhere Intl - CHART: TOP ALTITUDE RWY 8/25/34L/34R/35L/35R: 16000; RWY 16L/16R/17L/17R: 12000, and Mayfair Metro - CHART: TOP ALTITUDE 12000. If all airports share a common “Top Altitude,” then state as such: All Airports - CHART: TOP ALTITUDE: 12000.”

I have been advised that “appendix D and E” is a little misleading as they just provide examples of different variations allowed, however, they’ve made it clear in paragraph 2-1-3 e (1) (f), page 2-15 that we are still **limited to two per procedure**.

I understand that only two “Top Altitudes” can be published per procedure, but if you have a SID that applies to multiple airports, then I believe the language within appendix D and E clearly shows that you can have more than two “Top Altitudes” per procedure, but not more than two per airport. Under paragraph 2-1-3-e (1) (f), it advises you that appendix D and E shows the variations allowed, which includes multiple airports attached to a procedure. Each airport has their own procedure built and charted based on the information contained on FAA Form 8260-15B and therefore stating it doesn’t matter how many airports are tied to procedure, you can only have two “Top Altitudes” in my opinion is inefficient. If this interpretation is allowed to continue, it will add confusion and complexity to the NAS. The goal of adding the “Top Altitudes” to a procedure at a particular airport was to inform the pilot of the highest altitude they could climb to if they received a “Climb Via” clearance, but current policy restricts the number of “Top Altitudes” based on a procedure and not based on the possibility that various airports the procedure serves each may uniquely require a different set of “Top Altitudes” to support operational constraints. Additionally, we believe that current “Top Altitude” policy limitations increase workload and complexities for both ATC and pilots. If we are going to move forward with NEXTGEN in a positive manner that ensures safety, we need to ensure the directives containing the criteria/policy are written to allow this to occur.

Recommendations:

Allow two “Top Altitudes” published based on the procedure serving the airport of intended departure and not based solely on the procedure itself. By allowing this to occur, the “Top Altitudes” for each individual airport the procedure serves will be charted independently and will reduce complexity and communications for ATC and pilots. This retains the two “Top Altitude” maximum that will appear on any one chart, yet give ATC operational flexibility at complex locations where a single SID can serve multiple airports.

Comments:

Submitted by: Bennie Hutto

Organization: NATCA, DC Metroplex

Phone: (540) 522-6775 (cell)

E-mail: bhutto@natca.net

Date: February 21, 2016

INITIAL DISCUSSION – MEETING 16-01: Bennie Hutto (NATCA) presented the issue ([VIEW](#)). Order 8260.46F published in December, 2015, and allows for two Top Altitudes per procedure for a Standard Instrument Departure (SID). Bennie gave an example of a procedure being developed that served six airports, and AIS advised the limit was still only two Top Altitudes for the entire procedure; NATCA feels the Order 8260.46F, Appendix D and E examples, which do show variations, are misleading and do not follow text of the Order. At this location, Jeppesen charted three airports on one SID, and individual procedures on the other three airports. The FAA charts each airport individually (no combined procedures). NATCA would like to retain the two Top Altitude restriction, but expand it to accommodate the multiple airport aspect by allowing two Top Altitudes per procedure, per airport. An associated issue is the definition of what a “Top Altitude” is in

Order JO 7110.65 and Order 8260.46F, and because of this ATC must issue a Climb Via clearance (even though many published procedures are truly not Climb Via). Kevin Allen (American Airlines) said he feels industry would prefer to see satellite airports coded as separate procedures. Bennie replied that is problematic in some areas due to the amount of different procedures that would exist for ATC to remember in same area, which is why ATC wants to "tie" as many as possible together (i.e., use same procedure that goes to the same waypoints). The only issue ATC is having is the Top Altitude. Ted Thompson (Jeppesen) says they use an "also serves" concept to reduce the sheer number of procedures. Gary Fiske (AJV-8) said a "Climb/Descend Via Working Group" was formed (no longer active) that discussed the issue, and Tom Schneider (AFS-420) said that group was trying to avoid confusion about a limitless number of Top Altitudes charted and ATC having to worry about which airport an aircraft departed from (different Top Altitude). The anticipated workload for the controller drove the two altitude limit per procedure decision. Tom said AFS (responsible for the Order on source document for charting) will put whatever limit on "Top Altitudes" the ATO requests. Bennie said again the definition of Top Altitude, defined in both Orders, is forcing ATC to issue Climb Via clearances. Tony Lawson (AJV-54) stated that he was part of QC process and when they asked for clarification from AT Headquarters, they were told two per procedure. Gary McMullin (Southwest Airlines) said a Top Altitude does not belong on every procedure (use "climb and maintain" may be applicable phraseology). Brian Townsend (American Airlines) added the Top Altitude is just the ATC clearance limit on the SID, whereas the "Bottom Altitude" on a STAR is a constraint. The Climb Via phraseology for all SIDs with a Top Altitude, even though no published altitude constraints, leads to confusion. There is a recommendation at the Pilot Controller Procedure and Systems Integration (PCPSI) work group to clear up this issue; but as a first step there are a number of facilities that are being forced to apply a Climb Via clearance with their SIDs. There needs to be leeway so that even if a Top Altitude is present and the procedure has no other altitude constraints, a "climb and maintain..." clearance can be used. This would not require the removal of a top altitude if the facility wants it. Ted added that in Houston, if you split out all the procedures separate, the Jeppesen published number would go from 50 to 240. Tom inquired if the Climb/Descend Via working group is being reenergized and some thought so. Gary felt the issue should not go back to AJV-8 thru him, but rather a different avenue. Since "Top Altitude" remains a topic in the PCPSI group, Brian will bring it back to that group for consideration.

Status: Brian Townsend will take the issue to the PCPSI work group and report back. **Item open: PCPSI**

MEETING 16-02: Brian Townsend (American Airlines) briefed he did not follow up with Benny Hutto (NATCA), but that based on ACF and PARC PCPSI work group discussions, changes are needed to the current restrictions allowing only two top altitudes on a SID per procedure. The issue is that many SIDs serve multiple airports and ATC often has the operational need for different altitudes for the different airports on the procedure. The recommendation is to allow two top altitudes *per airport* per procedure (if needed). Rich Boll (NBAA) has a concern that some procedures that serve 10 airports could have 20 top altitudes. Gary Fiske (AJV-82) concurred, adding that this would not be an issue on FAA charts (as an individual chart is created for each airport), but would be an issue when chart providers (Jeppesen, for example) depict multiple airports on the same chart. The appendix in Order 8260.46 provides examples of multiple situations. Gary stated that

he has heard no discussion within ATC regarding the necessity for changes, and thinks we need allow the current Top Altitude policy to occur and then revisit the policy if there is an issue. The group discussed the situations at Baltimore, Dulles and other (possible) scenarios. Lev Prichard (APA) said he felt the bulk of pilots do not want to see 20 top altitudes on a SID; the potential for confusion is too large. Ted Thompson (Jeppesen) said the question is then whether you want 400 SIDs at an airport or 20 top altitudes on one. Discussion followed regarding coding altitudes with various scenarios, single named SID serving multiple airports, leaving the two top altitudes on the procedure and using climb and maintain altitudes as an alternative, leaving the policy alone and reassessing later. Gary Fiske advised DCP changes and the associated SRM document are in final coordination, with an (ambitious) publication goal of April 27, 2017. Brian added the PARC group will continue to work issue.

Status: Gary Fiske took an IOU to report status of any determinations made within the ATO regarding the number of "Top Altitudes" allowed. **Item open: AJV-82**

MEETING 17-02: John Bordy (Flight Procedure Standards Branch), showed a ([VIEW](#)) containing draft Order 8260.46G changes (red text). Gary Fiske (AJT-24) discussed the history of the ATC policy on the limit of two top altitudes per SID (versus two per airport). The concern is too many altitudes can lead to confusion and misapplication of clearances. Bennie Hutto (NATCA) said they have no issue with two altitudes per SID procedure but prefer individual charts for each airport like the FAA publishes (which would also reduce chart clutter). Gary said no action has occurred within the ATO to change to change the current top altitude policy. John opined if issue should remain open, and Valerie Watson (Aeronautical Information Services) said only if ATC wants. Ted Thompson (Jeppesen) discussed their products and how they combine procedures (example is Houston with 20), and said individual airport charts would be a huge undertaking. Rich Boll (NBAA) asked if a temporary accommodation would be for facilities to use "Top altitude as assigned by ATC" as a third option (in addition to two specific top altitudes)? Gary questioned this, and group discussion followed on the issue. John asked what more can be done related to instrument procedure policy and what the next step is. Gary said the draft Order 8260.46G language of two top altitudes per SID procedure works for ATO. John asked the group who this doesn't work for? Bennie responded that this doesn't work for NATCA. John suggested that the ATO and NATCA needs to get together to resolve this and that perhaps this need not be an ACF issue. Gary and Bennie recommended the ACF carry the issue one more cycle to allow time to coordinate with each other. Valerie wondered if the draft language note could be misinterpreted to mean two altitudes per airport; John will review.

Action Items:

Gary Fiske and Bennie Hutto will have further discussions and report back at next ACF. John Bordy will review draft note and clarify as needed.

Status: Item Open

Meeting 18-01: Gary Fiske (AJT-24) briefed the current FAA Order 8260.46 allows no more than two top altitudes per procedure, and that Bennie Hutto (NATCA) put out a change initiator requesting that be changed. The FAA held an internal meeting looking for a path forward and to discuss what air traffic's concerns were and how the FAA got to where we are now. Bennie said the meeting consensus was to allow the inclusion of an additional "or as assigned by ATC" top altitude option, which would not be counted as one of the two currently allowable top altitudes. In other words, the request is to allow up to two numeric altitudes and a third in the form of "or as assigned by ATC". FAA Order 8260.46G is in coordination, so changes may be too late (could be noted as a comment by the ATO reviewers), but John Bordy (Flight Procedure Standards Branch) will check with T.J. Nichols (Manager, Flight Procedure Standards Branch) and see if a change (via reacting to a comment) could be made without requiring a restart of the coordination process. If not, then John will brief the issue to the US-IFPP for consideration and change within FAA Order 8260.46.

Action Items: John Bordy will check with TJ Nichols and see if a change (via comment) is possible without requiring a restart of the coordination process. If the requested change cannot be included within FAA Order 8260.46G, then John will refer this issue to the IFPP.

Status: Item open.

Meeting 18-02: John Bordy (Flight Procedures and Airspace Group) reported on an action to determine if it was possible to amend "Top Altitude" charting requirements within FAA Order 8260.46G (which was already in coordination) without restarting the coordination process. The modification would allow the ability to include "as assigned by ATC" in addition to two numerical top altitude values. John reported that the change could not be added at this late stage of coordination and would need to be a part of the next change (for example, change 1 to FAA Order 8260.46G). Gary McMullen (SWA) cautioned the FAA not to allow this change. Significant discussion between Gary McMullen, Gary Fiske (AJT-22), and Lev Prichard (APA) ensued, with both Gary McMullen and Lev stating that the use of "climb via except maintain" phraseology leads to confusion. John Bordy stated there appears to be general disagreement and confusion on this issue and stated the US-IFPP Departure Working Group (DWG) will discuss. Gary McMullen suggested that John contact him for details on the issue for presentation to the DWG and John agreed.

Action Items:

- John Bordy will contact Gary McMullen for his perspective on the issue.
- The US-IFPP DWG will discuss this issue.

Status: Item open.

Meeting 19-01: John Bordy, Flight Procedures and Airspace Group, briefed the issue directly from the [slide](#): discussing a summary and current status. The original recommendation to allow two top altitudes per airport served by a SID was not accepted, instead the FAA currently permits two top altitudes per named-SID, regardless of how many airports the SID serves. There are plans to amend the current policy to allow three top altitudes per SID, provided no more than two of them are numerical values, while the third would be limited to “assigned by ATC”. Gary McMullin, Southwest Airlines, indicated he still has a concern about the FAA’s use of “assigned by ATC” as a top altitude, however he stated his concern will be worked through the PARC’s Pilot Controller Procedures and Systems Integration (PCPSI) working group. Gary Fiske, AJV-8 (contract support), asked for clarification if Flight Standards is indeed moving forward immediately with allowing three top altitudes. John Bordy stated three top altitudes will be added to the next iteration of Order 8260.46. Based on the original recommendation not being accepted, and the subsequent actions related to previous discussions being complete, John Bordy suggested closing this item. No objections to closure were received from the group so this item is closed.

Action Item: NA

Status: Item closed.