AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 15–02 October 27, 2015

RECOMMENDATION DOCUMENT

FAA Control # 15-02-323

Subject: Depiction of Low, Close-in Obstacles on SIDs & ODPs

Background/Discussion:

Beginning with the publication of FAA Order 8260.46, Departure Procedures, and consistent with subsequent revisions, FAA policy has been to depict the location and height of low, close-in obstacles identified in FAA Order 8260.3B, Vol 4, paragraph, 1.3.1 Low, Close-In OCS Penetrations. These obstacles require a higher than standard climb gradient, but to a height not exceeding 200' above Departure End of Runway (DER) elevation. Further, these obstacles do not force the promulgation of higher than standard takeoff minimums enabling "see and avoid" procedures (ref: FAA Order 8260.46E, Table 2-1-1, Situation 2).

While well-intentioned, the publication of these low, close-in obstacle notes has resulted in a serious chart clutter issue on many Standard Instrument Departures (SIDs) and extensively long Takeoff Minimums & Obstacle Departure Procedures (ODP) entries on those runways with numerous close-in obstacles.

Section 5-2-8 of the Aeronautical Information Manual (AIM) furnishes the following guidance to pilots concerning low, close-in obstacles:

> 4. Obstacles that are located within 1 NM of the DER and penetrate the 40:1 OCS are referred to as "low, close-in obstacles." The standard required obstacle clearance (ROC) of 48 feet per NM to clear these obstacles would require a climb gradient greater than 200 feet per NM for a very short distance, only until the aircraft was 200 feet above the DER. To eliminate publishing an excessive climb gradient, the obstacle AGL/MSL height and location relative to the DER is noted in the "Take-off Minimums and (OBSTACLE) Departure Procedures" section of a given Terminal Procedures Publication (TPP) booklet. ***The purpose of this note is to identify the obstacle(s) and alert the pilot to the height and location of the obstacle(s) so they can be avoided. This can be accomplished in a variety of ways, e.g., the pilot may be able to see the obstruction and maneuver around the obstacle(s) if necessary; early liftoff/climb performance may allow the aircraft to cross well above the obstacle(s); or if the obstacle(s) cannot be visually acquired during departure, preflight planning should take into account what turns or other maneuver may be necessary immediately after takeoff to avoid the obstruction(s***).

As stated in Order 8260.3B, these obstacles do not force higher than standard takeoff minimums. Therefore, it is questionable whether a pilot can actually see and avoid these obstacles immediately after takeoff, especially for certificated operators who may be departing using lower than standard takeoff minimums approved through OpSpecs.

Further, the AIM states that IFR departure procedures are "*based on the pilot crossing the departure end of the runway at least 35 feet above the departure end of runway elevation, climbing to 400 feet above the departure end of runway elevation before making the initial turn"* (ref: AIM 5-2-8 b1). Pilots might interpret the FAA's guidance to consider "turns or other maneuvers" at low altitude (i.e., less than 400 feet above the DER) immediately after takeoff in marginal VMC or even IMC to avoid these obstacles, ~~is~~ contrary to the concept of no turn until reaching 400 feet above the runway, which is not what was intended and could be a safety risk if done so. The preferred option is for the pilot to plan to the initial takeoff climb performance to vertically clear any low, close-in obstacle(s) while complying with the recommendations against turns below 400 feet AGL.

An additional concern is that the publication of multiple low, close-in obstacles masks the presence of those obstacles that must also be published as result of the establishment of higher-than-standard takeoff minimums in lieu of complying with the published climb gradient for the departure. When higher than standard takeoff minimums are published as an option for use instead of applying the higher than standard climb gradient (FAAO 8260.46E, Table 2-1-1, Situation 3 or Situation 4), the obstacle(s) necessitating the higher takeoff minimums must be published. However, these obstacles(s) are often lost in the sea of low, close-in obstacle. These are obstacles that the pilot **must** "see and avoid" during the takeoff if they are unable to comply with the climb gradient.

Recommendations:

NBAA, with the support of other Industry partners, recommends that Order 8260.46 be amended to remove the requirement to publish the location of each individual or group of low, close in obstacles on SIDs and ODPs. In place of this requirement, we recommend that the "Takeoff Obstacle Notes" sections for the applicable 8260 Forms be changed to publish when low, close-in obstacles that are identified for a departure runway, document the existence of these obstacles along with the height of highest of these obstacles and the distance of the closest obstacle from the DER, as shown below:

Rwy 13, Low, close in obstacles beginning 1654' from DER, up to 61'AGL/1078' MSL.

Figure 1 depicts the current ODP entry for St. Cloud MN (STC) and the proposed change to the depiction of low, close-in obstacles. Figures 2a and 2b depict the current MOONY3 SID at San Jose, CA (SJC) and this chart with the proposed change.

In addition to reducing the complexity of the obstacle notes, attention is drawn to the obstacle(s) that must be visually avoided when using the higher than standard takeoff minimums in lieu of a higher than standard climb gradient (obstacle highlighted in red on the STC example – for reference in this document only - we are not suggesting red be used for publication). The revised note regarding low, close-in obstacles still furnishes the pilot with sufficient information for planning purposes to aid the pilot in vertically avoiding these obstacles.

No IACC changes are required to implement this recommendation.

If this recommendation is adopted, a revision to AIM, section 5-2-8, is also necessary to call attention to the change in the depiction of low-close-in obstacles and to emphasize that any obstacle that is specifically listed by type on the SID or ODP must be visually avoided if the pilot departs IFR using the higher than standard takeoff minimums. See Figure 3 for our recommended changes to the AIM. In addition, it is recommended that this change, if adopted, but thoroughly discussed in the next edition of the FAA Instrument Procedures Handbook and Instrument Flying Handbook.

NBAA believes that these changes will reduce clutter on SIDs and ODPs and call attention to the more critical obstacles, ones that must be seen and avoided using the higher than standard takeoff minimums.

Comments:

This recommendation affects the following:

1. FAA Order 8260-46, Departure Procedures
2. Aeronautical Information Manual 5-2-8
3. FAA-H-8083-3A, Instrument Flying Handbook
4. FAA-H-8261-1A, Instrument Procedures Handbook

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Figure 1

St. Cloud, MN Takeoff Minimums & ODP – CURRENT:

ST. CLOUD, MN
ST. CLOUD RGNL (STC)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 09239 (FAA)
TAKEOFF MINIMUMS: **Rwy 5**, 300-1¼ or std. w/ min. climb of 201' per NM to 1300 or alternatively, with standard TAKEOFF minimums and a normal 200'/NM climb gradient, TAKEOFF must occur no later than 1100' prior to DER.
NOTE: **Rwy 5**, tower 6201' from DER, 1416' left of centerline, 149' AGL/1179' MSL. Multiple trees beginning 17' from DER, 373' right of centerline, up to 59' AGL/1081' MSL. Multiple trees beginning 1752' from DER, 56' left of centerline, up to 80' AGL/1102' MSL. **Rwy 13**, tree 1654' from DER, 884' right of centerline, 61' AGL/1078' MSL. Tree 1265' from DER, 794' left of centerline, 42' AGL/1059' MSL. **Rwy 23**, trees 2109' from DER, 29' right of centerline, up to 61' AGL/1082' MSL. Trees 1725' from DER, 93' left of centerline, up to 55' AGL/1076' MSL. Fence 74' from DER, 216' left of centerline, 2' AGL, 1023' MSL. **Rwy 31**, terrain beginning 29' from DER, 50' right of centerline, up to 1083' MSL. Terrain beginning 107' from DER, 7' left of centerline, up to 1060' MSL.

St. Cloud, MN Takeoff Minimums & ODP – PROPOSED:

ST. CLOUD, MN
ST. CLOUD RGNL (STC)
TAKEOFF MINIMUMS AND (OBSTACLE)
DEPARTURE PROCEDURES
ORIG 09239 (FAA)
TAKEOFF MINIMUMS: **Rwy 5**, 300-1¼ or std. w/ min. climb of 201' per NM to 1300 or alternatively, with standard TAKEOFF minimums and a normal 200'/NM climb gradient, TAKEOFF must occur no later than 1100' prior to DER.
NOTE: **Rwy 5**, Low, close in obstacles beginning 17' from DER up to 80' AGL/1102' MSL. Tower 6201' from DER, 1416' left of centerline, 149' AGL/1179' MSL. **Rwy 13**, Low, close in obstacles beginning 1654' from DER, up to 61'AGL/1078' MSL. **Rwy 23**, Low, close in obstacles 74' from DER, up to 61' AGL/1082' MSL. **Rwy 31**, Low, close in obstacles beginning 29' from DER, up to 1083' MSL.

Figure 2a – MOONY3 SID SJC – Current:

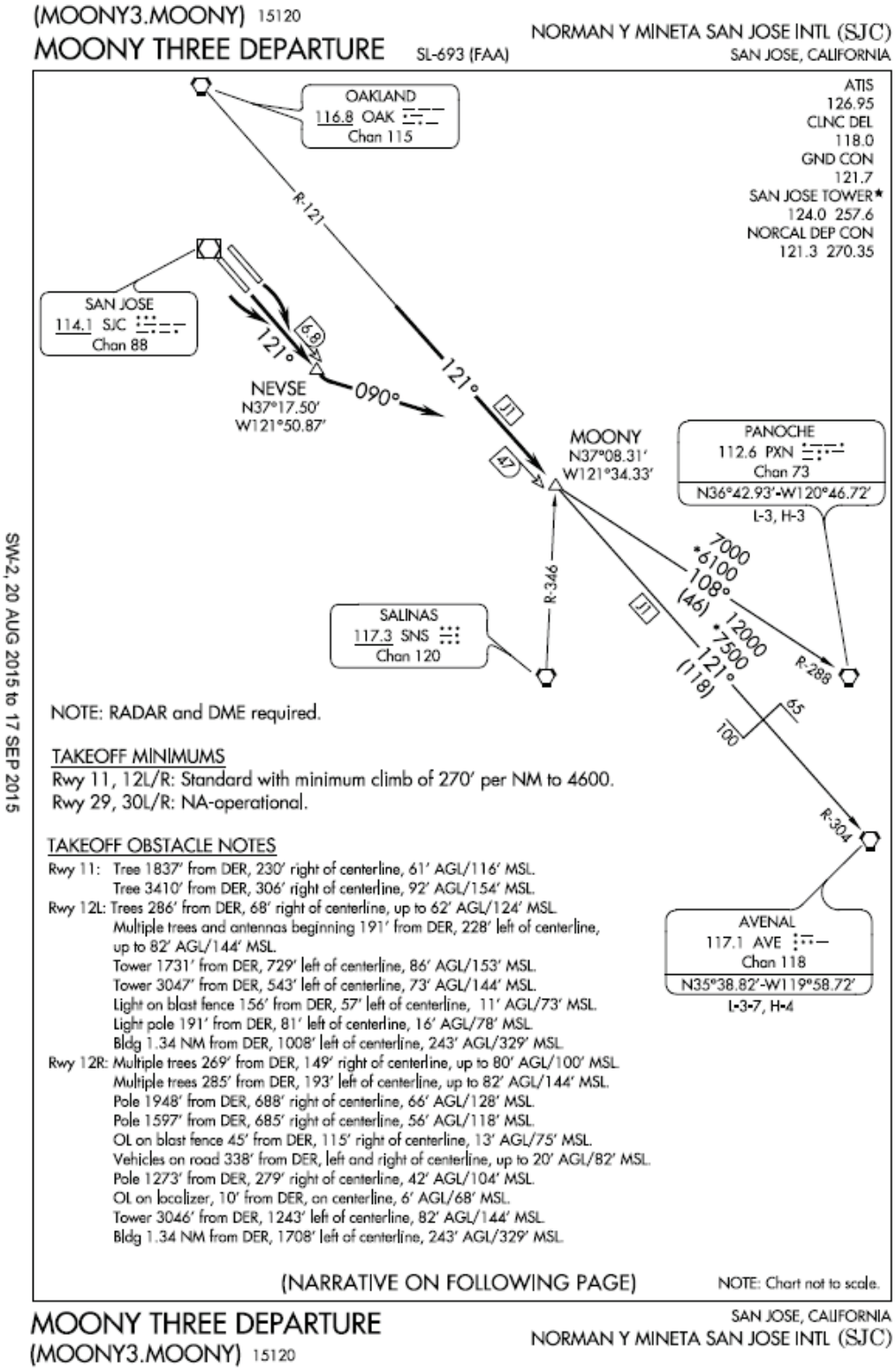

Figure 2b – MOONY3 SID SJC – Incorporating Proposed Change:

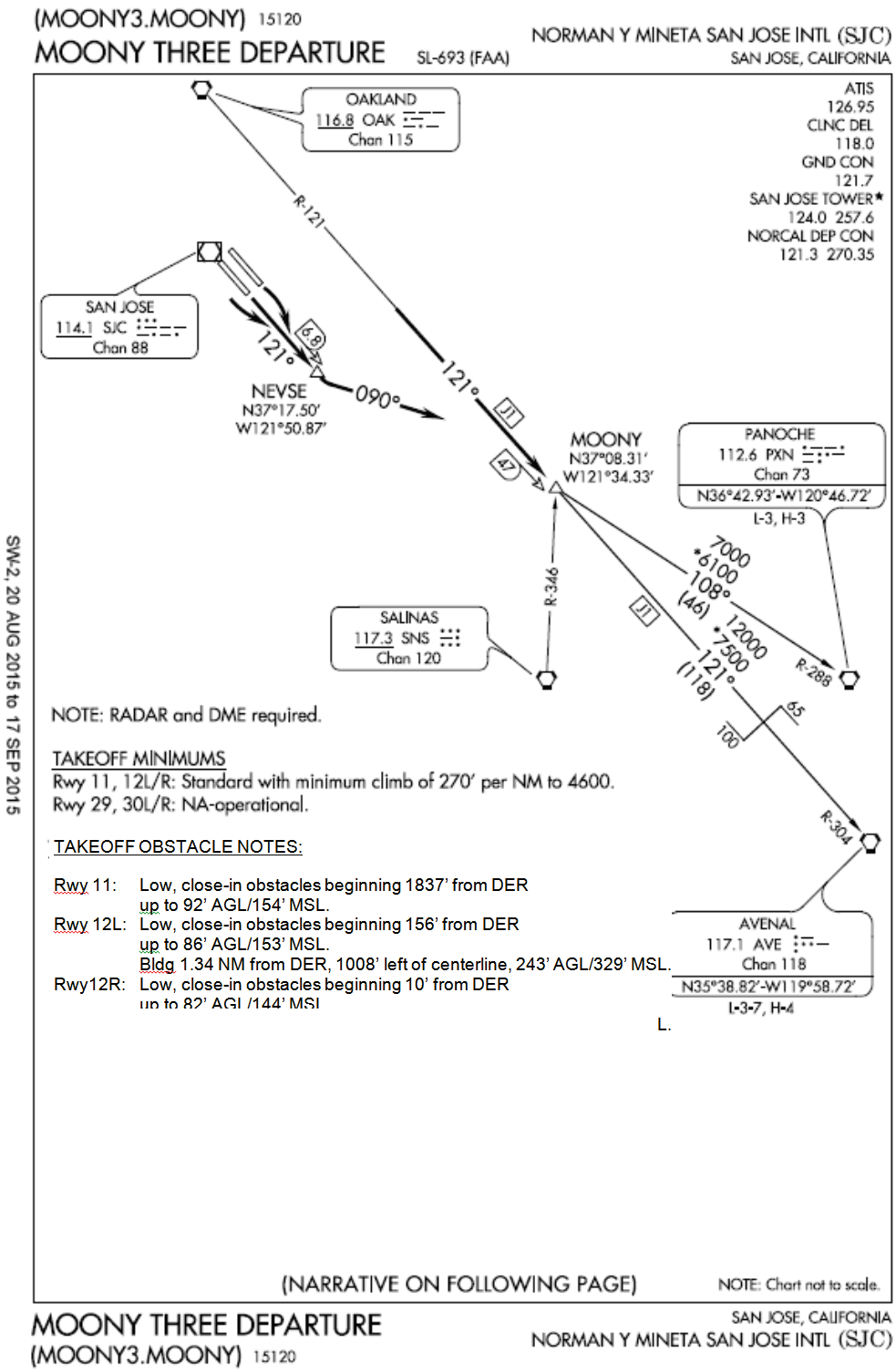

Figure 3 – Revised AIM 5-2-8 Guidance:

5−2−8. Instrument Departure Procedures (DP) − Obstacle Departure Procedures (ODP) and Standard Instrument Departures (SID)

4. Obstacles that are located within 1 NM of the DER and penetrate the 40:1 OCS are referred to as "low, close−in obstacles." The standard required obstacle clearance (ROC) of 48 feet per NM to clear these obstacles would require a climb gradient greater than 200 feet per NM for a very short distance, only until the aircraft was 200 feet above the DER. **In addition, these obstacles do not warrant the establishment of higher-than-standard takeoff minimums for that runway.** ~~To eliminate publishing an excessive climb gradient~~, ~~obstacle AGL/MSL height and location relative to the DER is~~ **Low, close in obstacles are** noted in the "Take−off Minimums and (OBSTACLE) Departure Procedures" section of a given Terminal Procedures Publication (TPP) booklet. The purpose of this note is to identify **the presence of these** obstacle(s) and alert the pilot **as** to their **general** height and location**.** ~~of the obstacle(s) so they can be avoided. This can be accomplished in a variety of ways, e.g., **the** pilot may be able to see the obstruction and maneuver around the obstacle(s) if necessary. may or if the obstacle(s) cannot be visually acquired during departure, preflight planning should take into account what turns or other maneuver may be necessary immediately after takeoff to avoid the obstruction(s).~~ **Pilots should ensure that adequate performance exists that allows these obstacles to be cleared during the initial takeoff. This performance may be the result of additional height crossing the departure end of runway beyond the 35 feet expected crossing height, the result of sufficient climb performance, or a combination the two.**

c. Who is responsible for obstacle clearance? DPs are designed so that adherence to the procedure by the pilot will ensure obstacle protection. Additionally:

1. Obstacle clearance responsibility also rests with the pilot when he/she chooses to climb in visual conditions in lieu of flying a DP and/or depart under increased takeoff minima rather than fly the climb gradient. Standard takeoff minima are one statute mile for aircraft having two engines or less and one−half statute mile for aircraft having more than two engines. Specified ceiling and visibility minima (VCOA or increased takeoff minima) will allow visual avoidance of obstacles until the pilot enters the standard obstacle protection area. **Obstacles(s) that**

must be visually avoided when using the higher than standard takeoff minimums are listed in the Take−off Minimums and (Obstacle) Departure Procedures section of the U. S. Terminal Procedure booklet. The MSL height of the obstacle and its height above the ground (AGL) at the obstacles' actual location is provided. Obstacle avoidance is not guaranteed if the pilot maneuvers farther from the airport than the specified visibility minimum prior to reaching the specified altitude. DPs may also contain what are called Low Close in Obstacles. These obstacles are less than 200 feet above the departure end of runway elevation and within one NM of the runway end, and do not require increased takeoff minimums. These obstacles are identified on the SID chart or in the Take−off Minimums and (Obstacle) Departure Procedures section of the U. S. Terminal Procedure booklet. These obstacles are especially critical to aircraft that do not lift off until close to the departure end of the runway or which climb at the minimum rate. Pilots should also consider drift following lift−off to ensure sufficient clearance from these obstacles. That segment of the procedure that requires the pilot to see and avoid obstacles ends when the aircraft crosses the specified point at the required altitude. In all cases continued obstacle clearance is based on having climbed a minimum of 200 feet per nautical mile to the specified point and then continuing to climb at least 200 foot per nautical mile during the departure until reaching the minimum enroute altitude, unless specified otherwise.

INITIAL DISCUSSION – MEETING 15-02: Rich Boll, NBAA, presented this issue with several industry partners supporting this position. (View) FAA policy since around 2000 is to publish low, close-in obstacles (LCIO) on SIDs & ODPs. An example was provided for Chicago's Midway Airport (MDW) Runway 31R. It was noted that not all obstacles in the Initial Climb Area (ICA) are listed since they can be grouped per criteria (i.e., highest/closest per grouping policy specified in Order 8260.46). One problem is that many locations have very long lists of obstacles and this can result in procedures being split into two pages (i.e., First page being the procedure graphic and the second page just for the list of obstacles). Not all obstacles are in the LCIO notes, with some penetrating the 40:1 surface to a height above 200ft, requiring a higher climb gradient/visibility restriction to see and avoid. The actual obstacle that you may need to avoid can be difficult to pick out of the list. Another issue is that new survey data being submitted is resulting in many more obstacles being identified, adding to an already extensive list of obstacles. The proposal is to change the LCIO obstacle notes section, when LCIOs are present, to identify the highest and closest obstacles to DER in the ICA for the pilot to be aware of. This change would have to be explained in the AIM and IPH. Obstacles that the pilot must be aware of that must be considered and avoided will still be listed and would be easier for the pilot to identify. There should be no charting or

TERPs criteria changes required, just the method used in stating these obstacles. Discussions followed on: turns in low visibility to avoid a LCIO; listing of the highest obstacle vs. obstacle requiring the highest climb gradient; see and avoid issues; planning departure to avoid obstacles (i.e., take off sooner); due to the long lists of obstacles, some pilots are not reading them at all; some pilots do not plan correctly; Rich said LCIO obstacles are useless for performance engineering; situational awareness function of listing these obstacles; AIS software tool in development to help group obstacles by using highest/closest to DER in each group; and displaying data on a tabular list vs. a run on list. FAA personal, Jeppesen, AOPA, Airline representatives and most attendees cited the benefits and endorsed the NBAA proposal to attempt to find a better way of disseminating this information. Consensus was that the existing lengthy lists of obstacles are cumbersome and are of questionable value to most pilots and that listing only crucial ones would be preferable. Rick supports the proposal to work on finding a better way to provide this information to the pilot and AFS-420 will take on the issue, working in conjunction with AIS on examples for ACF 16-01 (utilizing their new software for obstacle grouping) and charting specs.

Status: AFS-420 to report back with a status and proposals. **Item open:** AFS-420

MEETING 16-01: Tom Schneider (AFS-420) stated that the status update will be in two parts. In part 1, Krystal Behrns (AJV-5) briefed an Aeronautical Information Services proposal (View) to remove takeoff notes from Standard Instrument Departure (SID) graphics, as outlined in the attached PowerPoint presentation. This proposal would reduce clutter, eliminate redundancy (as they are repeated in the textual takeoff section of the TPP), reduce number of continuation pages (currently 107), and leave Takeoff Obstacle Notes on all Obstacle Departure Procedure (ODP) charts. Vince Massimini (MITRE) discussed that if a pilot is given a different departure they would have to go look for notes elsewhere when busy rather than having them on the new SID, but agrees with the clutter issue. Michael Stromberg (Air Wisconsin) suggested that rather than placing all obstacle information at front of book, each airport have its own individual page, making the data readily available, but no chart clutter. Ted Thompson (Jeppesen) endorses this proposal. Jeppesen was compelled to provide notes when they began to appear on the 8260 series forms. Jeppesen then received airline feedback, questioning what to do with the notes (i.e., bushes, chain link fences, etc.), and were asked by the users of their products to remove them from the procedure charts and place on separate page. Jeppesen decided that on procedures with few low, close-in obstacles (<6) to place them on the SID graphic, and if there was an “excessive” number, place them on separate obstacle page indexed to follow the SID procedure. Airlines with a tailored service could then opt to not receive the separate obstacle page (most opted out), because many airlines do their own obstacle data research/analysis for low, close-in obstacles. Ted added many pilots feel this is not useful information. Jeppesen maintains an obstacle base requiring a lot of effort, but they are not sure of any benefit and would prefer they go away. Gary Fiske (AJV-8) inquired if this was the Rich Boll (NBAA) proposal to just show highest/closest? The answer was no; this proposal is to reduce chart clutter by placing this redundant information (i.e., same information applies to multiple procedures) in a single location. A lengthy discussion ensued including: chart all obstacles; not show any at all; identify highest in certain proximity; append take off minimums per runway; etc. Tom Schneider (AFS-420) added this has been discussed for many years; originally pilots said they did not want to pull up a SID and then have to

look elsewhere for the info on obstacles, so the decision was made to chart all information on each procedure chart to offer "one stop shopping". Changes were made to accommodate this, but now we are trying to revert back to taking this information off the charts by having pilot, once again, being faced with having to go to two locations to get ***all*** the applicable information for the procedure to be flown. Tom asked if the FAA should chart as Jeppesen does, even though this would require the pilot to look for the information in a different place, but in the same area with the SIDs vs. in the Takeoff Minimums section in the front of the Terminal Procedures Publication. Valerie Watson (AIS) added pilots would still have a lot of reading to do, but the information *would not* be deleted. More discussion followed about the Jeppesen representation of the data, and Ted added that an irony of the digital age is it takes more work to look at a different page for the data electronically than flipping a book page. He questioned if anyone actually uses the data, either on chart or on an add-on page. Lev Prichard (APA) said some GA and military use the data, and supported moving the obstacle information to the single, ODP location; he believes users want the data somewhere. Valerie responded the FAA provides the digital Takeoff file containing the takeoff obstacles, but cannot control what industry does with it. She asked if the takeoff text were searchable by airport ID, would the group support removing it from SID graphics. Rune Duke (AOPA) said they at least want information in the front of the book, but searchable would be better. Larry Hill (FedEx) said, for example, the 6 ft. fences can go, but FedEx prefers some obstacle data on the chart in case of unplanned event. Michael inquired about color coding of obstacles. Ted said this would require more effort and he thought would be of marginal value. Tom said the issue has a short term and long term component; this short term fix places obstacles in a "single" list of their own. Valerie again asked the group if takeoff entries were searchable by airport and could perhaps be "clickable," would that justify or make possible the removal of them from redundant locations. Group said yes, but Ted said this is harder to do than it sounds. Tom questioned if SID and ODP obstacle data are always the same, and both Valerie and Tony Lawson (AIS) said yes. Tony added that when you change one obstacle you must amend every chart affected. Listing the obstacle on only one FAA Form 8260-15A (Takeoff form) would significantly reduce maintenance by eliminating the current necessity of updating ALL of the SID forms at a given airport when a single obstacle is revised. Michael acknowledged the benefit for this information being in one location, mentioning the airport chart like Jeppesen does. Bill Wade (Delta Airlines) also likes the way Jeppesen displays the info where it does. A group discussion on Form 8260-15B usage and possible changes ensued. The group agreed that, in the FAA digital files, if the Takeoff section (and thus the takeoff obstacles) were searchable by airport ident, it would be permissible to remove the redundant takeoff obstacle text from the planview of SID graphics. Valerie repeated that because there is no textual takeoff entry (with the subject obstacles listed) for graphic ODPs, this would NOT apply to them, but only to SIDs. Valerie will advise Ted before any changes are implemented. Valerie took an IOU to investigate making the textual takeoff section searchable by airport ident and to draft proposed revisions of IACC specs to support the removal of takeoff obstacle text from SID charts. She also agreed to label the current obstacle text "TAKOFF OBSTACLE NOTES" vs the current "NOTE" in the takeoff section so that the obstacle information is more obviously labeled and is in concurrence with the Form 8260-15A source document. If and when this proposal is implemented, AIS will issue a "Chart Notice" to address these changes. No objections received.

Tom briefed part 2 (View) of this agenda item on how this was presented to the US-IFPP in January, and it also generated a lot of discussion. One concern raised by Flight Inspection was if obstacles are removed from the chart are we removing information that

may be important to the pilot. Rob Kroeplin (AJV-5) briefed the US-IFPP on an AIS computer tool that groups obstacles. In some cases it may reduce number of obstacles (not all), but it helps procedure designers, especially with the proliferation of new survey generated obstacles. Kevin Allen (American Airlines) asked if any pilots in the room actually look at or read the obstacles on the chart, and only Jen Scott (AFFSA) said yes. Discussion followed on possibly listing controlling obstacles and placing generic note stating not all low, close-in obstacles are charted. Tom advised the US-IFPP Departure WG is being reenergized (long term concept work) for departure criteria, and there are also possible changes to the obstacle identification surfaces. Tom will brief this discussion at the June US-IFPP, and report back at ACF-16-02.

Status: Valerie took IOU to investigate making the takeoff section of the TPP searchable by airport, to draft proposed revisions to IACC specifications to remove text obstacles from SIDs and to revise the "TAKEOFF OBSTACLE NOTES" obstacle note label. They will issue a Chart Notice to alert users of the changes if/when implemented. No objections received. John Blair (AFS-410) took an IOU to look at flight ops and AIM/AIP changes required for guidance to pilots concerning the transition to the new method of charting; i.e., changes on some charts having obstacles, and some having the key indicating to look at front of book. Tom took an IOU to brief this discussion at the June US-IFPP, and report back at ACF-16-02. **Item Open:** AJV-5/AFS-410 /AFS-420

MEETING 16-02: Tom Schneider (AFS-420) stated there are several IOUs on this item. (VIEW) Tom showed a slide from the US-IFPP Departure Working Group (DWG), which has met several times since last ACF and has been investigating ways to reduce charting of some low, close-in obstacles. One change proposed for Order 8260.3C, change 1, is not to chart obstacles less than 35 ft. above DER (height departing aircraft in the US are expected to cross the DER). Analysis of some procedures showed that this change would result in a significant reduction of obstacles. Tom showed associated Order 8260.3 and 8260.46 language to support this and advised that an associated AIM/AIP and IPH update is being worked by AFS-410. The issue is still in US-IFPP for other reduction strategies and remains open in the DWG. For the second IOU, Krystle Behrns (AJV-5614) described the efforts by AJV-5 to create a search-by-airport-ident function for the digital TPP so that users can easily access and search the textual takeoff section (which contains the close-in obstacle list for each airport). Valerie Watson (AJV-533) showed a sample of the search function to be built for every airport. The proposal consists of removing the obstacle lists from graphic SIDs as long as these obstacles can be readily found by an electronic search of the takeoff entry for that airport. This followed with a lengthy discussion on: Will an index be furnished by the FAA; how this would work; and will it be readily available in the cockpit. FAA's responsibility is to provide source data only and let users/providers work from there. The obstacle text is provided in the Takeoff entries and will (when this function is implemented) be searchable by airport identifier. Third party providers can expand and utilize this function as they see fit. Most participants agreed FAA does not need to provide tailored solutions. The original issue of chart clutter caused by lengthy textual obstacle lists on graphic SIDs would be solved by implementing this proposal. Rich Boll (NBAA) pointed out that Alternate Minimums would work well like this too, and Krystle Behrns said that concept is a future consideration for both Alternate and RADAR entries. Valerie said this is a short term fix; the long term goal is to separate all files by airport identifier, such as Alternates, Takeoffs, Radar Procedures, etc. and make them searchable by the identifier. Tom asked the group if all agreed to move forward with this proposal on removing obstacles

from SIDs, and no one objected. Rich said this must be explained in the AIM/AIP and IPH prior to implementation. Tom asked if a "boiler plate" annotation should be placed on the SID or graphic ODP referring user to takeoff obstacles in front. Valerie commented that the "T" symbol is on all SIDs now and directs users to the Takeoff entry where the obstacles are already listed. Group discussion followed on: current system; current annotations; benefits of annotations/line of text direction on chart or none; raising pilot awareness of obstacles; and whether this is a training issue.

Status: Val took IOU to work on verbiage in front matter for use of "T" symbol on SIDs. Krystal took an IOU to move forward with advancing the searchable Takeoff function. Krystal will also work to begin removing textual obstacles for SIDs after Takeoff entries become fully searchable. Tom will look at language change for Form 8260-15B to remove obstacles. Valerie pressed for leaving them on Form 8260-15A only. Tom and Valerie will discuss this part offline. AIM/AIP and IPH update is being worked by AFS-410. **Item Open:** AJV-5/AFS-410/AFS-420

MEETING 17-02: Valerie Watson (Aeronautical Information Services) stated an IAC Requirements Document (RD) was processed to remove charting of obstacle notes on SIDS and to amend the front matter of the TPP related to the negative T symbol (trouble T) so that it now simply indicates the airport is published in the "Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors)" section of a TPP. With the completion of this RD, the charting aspect of moving forward to remove takeoff obstacles from SIDs is now complete. Valerie also mentioned that the airports can now be searched electronically which completes the action item that was due from Krystal Behrns (Aeronautical Information Services). John Bordy (Flight Procedure Standards Branch), briefed Order 8260.46G draft will remove language requiring procedure designers to annotate all take off obstacles for SIDs. A new development is that all takeoff obstacles must be annotated on FAA Form 8260-15A, which will ensure all takeoff obstacles will be published in the "Takeoff Minimums, (Obstacle) Departure Procedures, and Diverse Vector Area (Radar Vectors)" section of a TPP. There will be no changes related to the depiction of obstacles on graphic ODPs, that is, graphic ODPs will continue to have takeoff obstacles charted on the graphic ODP. John Blair (Flight Operations Branch) advised draft AIM language is out for coordination and should be published next cycle (August 2018). For the interim, he advised information related to the removal of takeoff obstacles from SID charts has been published as a graphic notice in the Notices to Airmen Publication.

Action Items:
John Blair will track status of the AIM change and report back at the next ACF-IPG.
John Bordy will track Order 8260.46G changes and report back at the next ACF-IPG.

Status: Item will remain open until AIM and Order 8260.46G are published.

Meeting 18-01: John Bordy (Flight Procedure and Airspace Group) advised the FAA is in process of removing the textual listing of takeoff obstacles from SIDs and instead placing all of them in the front of the TPP, (obstacles will remain on graphic ODPs). John Bordy reported the IFPP's Departure Working Group is looking at ways to reduce the number of obstacles being charted as low, close-in obstacles. John mentioned part of the reason the number of low, close-in obstacle is growing is because of surveyors reporting more obstacles as opposed to the minimum number required by survey standards. One method being considered is to divide the initial climb area into sectors/zones, and only charting representative obstacles for each sector. John Bordy mentioned this work is ongoing and nothing has been decided as of yet. John Blair (Flight Operations Group) said there is work on AIM language in progress. Enrique Sanabria (Port Authority NY/NJ) discussed that some listed obstacles may not exist anymore or may contain incorrect information. Enrique mentioned the Port Authority has an Obstruction Working Group for NY/NJ, and invited any interested airlines and aeronautical information providers to participate if interested. Enrique mentioned the challenges they face are often attributed to there being multiple databases with slightly different information (such as elevation and coordinates). John Bordy also mentioned there is a Survey Working Group within the US-IFPP that is working on issues related to the recent survey data and issues related to the number of obstacles being reported through surveys.

Action Items: John Bordy will report on result of IFPP initiatives and the publication of FAA Order 8260.46G.

Status: Item open

Meeting 18-02: John Bordy (Flight Procedures and Airspace Group) briefed the status of draft FAA Order 8260.46G that contains new policy that will remove low-close in obstacle information from SIDs. John stated the order should be published in approximately one to two months. As mentioned last meeting, the intent of the change is to reduce the amount of obstacle notes charted on SIDs. John briefed that the US-IFPP Departure Working Group (led by Dan Wacker, Flight Procedures and Airspace Group) is working on other initiatives to reduce the increasing number of charted low, close-in obstacles. One initiative is to work with the Office of Airports to examine and possibly refine airport survey standards. Other initiatives being examined include only charting representative obstacles within the initial climb area, reducing the initial climb area, and possibly changing the slope of the initial climb area.

Action Item: John Bordy will provide an update to the status of FAA Order 8260.46G and any developments that occur within the US-IFPP Departure Working Group at the next meeting.

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. Valerie Watson, AJV-A, advised the takeoff obstacle notes have been removed from all SIDs. John Bordy stated the US-IFPP Departure Working Group (DWG) is working on a concept that would result in removal of all low close-in obstacle notes from charts. The concept is to replace low, close-in obstacle notes with a published departure end of runway crossing height (up to 200 feet AGL) that would clear all low, close-in obstacles. For aircraft unable to meet the crossing height, a ceiling and minimum visibility option will be provided. The departure criteria lead within the DWG is currently working to mature the concept, and intends to conduct a safety risk management assessment. Several participants indicated they are concerned that recently the Air Traffic Organization (ATO) has not allowed them to participate as panel members during safety risk management assessments, however T.J. Nichols, Flight Procedures and Airspace Group, indicated that Aviation Safety's safety risk management process isn't identical to the ATO. If the new concept isn't fully accepted, then the DWG will continue to explore other options. John Bordy stated that invites for the meeting should be forthcoming soon. Valerie Watson, AJV-A, asked if we remove these obstacles from charting, will they still be available somewhere else for departure planning of one engine inoperative; John Bordy indicated that the data will still exist, but perhaps further discussion is needed on how that can be made available.

Action Item: John Bordy will report DWG progress/actions on this effort.

Status: Item open.

Meeting 19-02 John Bordy, FAA Flight Procedures and Airspace Group, briefed the issue summary and current status from the slide. FAA directives currently have a policy to allow grouping of low close-in obstacles for charting, and Aeronautical Information Services is using a software tool to perform that grouping. With publication of Order 8260.46G, there is no longer any requirement to publish low close-in obstacles on SIDs. Regarding the new proposal discussed at ACM 19-01, there was a Safety Risk Assessment of the proposed policy conducted in Fort Worth in July 2019, and attended by many ACM attendees present. The proposed draft language requires listing the most critical obstacles in the initial climb area for low close-in, climb gradient, climb gradient termination altitude, ceiling, and visibility. Also for low close-in obstacles, the proposal would provide options for the pilot to consider such as DER crossing height. The document has been drafted, but not yet signed. If this proposal is accepted, it will affect policy language changes regarding documentation and charting of low close-in obstacles. Flight Procedures and Airspace Group will report status of the risk assessment and any resulting changes to policy at the next ACM. Valerie Watson, FAA/AJV-A25, asked if there would be a briefing of examples to the ACM. John stated that those could be provided once the assessment report has been approved. Jeff Rawdon, FAA Flight Procedures and Airspace Group, stated the assessment report was currently with the Flight Procedures and Airspace Group manager for review.

Action Items:

- FAA Flight Procedures and Airspace Group will continue to monitor status of the safety risk assessment report and will report the status and any subsequent policy changes

Status: Item open

Meeting 20-02: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue summary and current status from the slide. Dan Wacker, FPAG, said the Departure Working Group is working on a document to compliment the safety management review completed last year, and is circulating it now for comments. He has briefed the Air Force and can brief other branches if requested, and said he will brief any group on the low close-in obstacle documentation changes if requested. They have some concepts they are circulating, and a copy of the document to show the current proposed revision will be an attachment to these minutes. There is no expected date at this time for incorporation in criteria; this will be set after the initial concept work is completed. Doug Willey, Air Line Pilots Association, requested the briefing from Dan and will coordinate directly with Dan.

Action Items:

- Flight Procedures and Airspace Group will brief status of the Departure Working Group progress at ACM 21-01.

Status: Item open

Meeting 21-01: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue summary and current status from the slide. Dan Wacker, FPAG, said the Departure Working Group (DWG) has 26 total items: 8 are closed and 18 open, with 2 new items, adding a DWG meeting will be held in May. The DWG circulated a document on new initial climb areas (ICAs) and revised obstacle and low close-in obstacle notes to all interested parties, and are now beginning work on draft criteria. Dan offered to brief any interested parties on the work so far by the DWG.

Jim Deuvall, CAVU Companies, commented that as a performance engineer, the draft recommendation in this document limiting obstacles to highest/closest (remove others) will not necessarily display the most limiting obstacle and he feels this may not provide the necessary safety margins as described in the AIM and Order 8260.46, particularly as applied to reduced performance takeoff. Jim agreed existing notes are voluminous and difficult to comprehend. Jim showed an example slide with three obstacles demonstrating the limiting obstacle may not be the closest and/or highest. Jim recommends removal of all references to close-in obstacles further than 400 ft from the centerline, and addition of AIM explanatory language on how obstacles without known exact location/height are handled. Dan said TERPS assumes all engines are operating normally, and that one-engine inoperative (OEI) standards are different from TERPS. The obstacles listed are not for OEI, but are based on the TERPS departure ICA. The DWG has a

plan that has been coordinated with most of industry, including engineers, and have conducted a safety management review of the proposed changes. Dan offered to brief Jim on the work to date and Jim welcomed the offer, saying the intent of the issue was to reduce overall amount of listed obstacles but still provide the pilot practical information. Dan added the DWG has already considered Jim's suggestion, and will discuss this with Jim offline.

Action Items:

- Dan Wacker will provide Jim Deuvall a briefing of the work to date of the Departure Working Group
- Flight Procedures and Airspace Group will brief the Departure Working Group status at ACM 21-02

Status: Item open

Meeting 21-02: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue summary and current status from the slide. Dan Wacker, FPAG, said the Departure Working Group (DWG) is close to a final resolution. They have briefed all associated groups they are aware of on the new obstacle notes. Dan again said if anyone else would like a briefing, they should contact him as soon as possible. Dan advised he, Sue Walker, FPAG, and Dave Sauer, FPAG, are working on draft language for Order 8260.46K, which should be finalized and in coordination early next year. Dan will send out the criteria language as completed to interested parties. Darrell Pennington, Air Line Pilots Association, asked about the release process, and Dan explained the new criteria for the revised note language would be released in conjunction with the new ICA criteria planned for Order 8260.3E Chg 2. The revised note language will only be utilized when the new ICA criteria is applied.

Actions: Will report current status of changes at the next meeting.

Status: Item open

Meeting 22-01: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue summary and current status from the slide. The Departure Working Group (DWG) has been working on a revision of the initial climb area (ICA) for several years, to reduce the quantity of listed low, close-in obstacles. The plan is for Order 8260.3, U.S. Standard for Terminal Instrument Procedures (TERPS) (Version 8260.3E Chg 2 or Order 8260.3F) to include the ICA revision. Order 8260.46K, Departure Procedure (DP) Program, with the associated revision to low, close-in obstacle notes will be published concurrently with changes to Order 8260.3. Bill Tuccio, Garmin, asked about the original RD example, and Rich Boll, NBAA, said higher performance aircraft are generally well above and not affected by any low, close-in obstacles, so this typically applies more to less capable aircraft. These are for pilot awareness if the aircraft performance does not allow a climb above the obstacles. Joshua Fenwick, Garmin, said they have noticed some charts no longer show obstacle notes. Valerie Watson, FAA

Charting Products Integration Team (AJV-A250), advised if there are takeoff obstacle notes on the Form 8260-15C, Graphic Departure Procedures, they should be on the chart. Rich said the original issue was to reduce number of listed low, close-in obstacles in the ICA, and the obstacles should be the same, just listed differently on ODPs and SIDs. Jeff said Order 8260.46 and Order 8260.19, Flight Procedures and Airspace, guidance has been aligned for consistent requirements on charting documentation from a recently closed RD. Dan Wacker, FPAG, said the new ICA and obstacle description will be released at the same time, so the pilots will know there is a new ICA by the drastically different notes format. Dan will brief anyone that requests an explanation. If a pilot sees a T icon on the SID chart they would look in the TPP front matter for the obstacles. Dan added there are procedures that still have obstacles listed on the graphic chart, since they have not been revised yet. Krystal Kime, FAA Aeronautical Information Services Terminal Charting, pointed out there is no chart mismatch on FAA departure charts, since all takeoff obstacle notes have been removed and the T icon has been added on SIDs. Only graphic ODPs currently have low, close-in obstacles listed. Pat Mulqueen, FAA Instrument Flight Procedures Group (AJV-400), said criteria now allows grouping of obstacles to help prevent lengthy listings. Although the listing may appear different due to grouping, it will still cover the same obstacles. Jeff said if there is any concern with specific procedures, those should be submitted via the IFP Gateway website.

Actions: The Agency will report current status of changes to Orders 8260.3 and 8260.46 at the next meeting.

Status: Item open.

Meeting 22-02: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue summary and status of order changes. Dan Wacker, FPAG, briefed the next draft revision of Order 8260.3, U.S. Terminal Instrument Procedures (TERPS), will enter the coordination process within the next \month for review and will include new initial climb area (ICA) criteria. Sue Walker, FPAG, briefed the next revision of Order 8260.46, Departure Procedures (DP) Program, is being prepared for coordination, and it contains the revised documentation for low, close-in obstacles. This is a link to directives drafts.

Actions: FPAG will continue to coordinate the order revisions and will brief status at ACM 23 01.

Status: Item open

Meeting 23-01: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue summary and status of order changes from a (slide). Dan Wacker, FPAG, added there was a slight delay to the applicable order changes due to other work in Order 8260.3, but that this effort was now back on track. Sue Walker, FPAG, added that extensive coordination had been accomplished to ensure a good product. Jeff said the item will remain open pending publication of the changes in Orders 8260.3 and 8260.46. Bill Tuccio, Garmin, asked for an example of what is being done, and Dan said there had been no changes since the previous briefing in the Departure Work Group.

Actions: FPAG will continue to work the issue and report on status of revisions to Orders 8260.3 and 8260.46.

Status: Item open

Meeting 23-02: Jeff Rawdon, FAA Flight Procedures and Airspace Group (FPAG), briefed the issue from a slide. Revisions to Orders 8260.3 and 8260.46 incorporated the applicable changes and are entering coordination. Dan Wacker, FPAG, will provide a draft to anyone interested on request by email. Sue Walker, (FPAG), made the same offer with respect to the Order 8260.46 draft. Jeff said attendees could send the request to 9-AMC-AVS-AMC-info@faa.gov if they did not have Dan or Sue's email addresses.

Actions: FPAG will continue to brief status on the processing of Orders 8260.3 and 8260.46.

Status: Item open
