

**Government/Industry Aeronautical Charting Forum (ACF)
Meeting 09-02
Charting Group**

October 28-29, 2009

MINUTES

I. Opening Remarks

The Aeronautical Charting Forum (ACF) was hosted by the FAA/National Aeronautical Navigation (AeroNav) Services office in Silver Spring, Maryland. Mr. John Moore, Chair of the Aeronautical Charting Forum, Charting Group, opened the Forum on October 28, 2009. Mr. Moore acknowledged the ACF Co-Chair Mr. Tom Schneider, AFS-420. Mr. Schneider chaired the ACF Instrument Procedures Group meeting held on October 27, 2009. Minutes of that meeting will be distributed separately.

II. Review of Minutes from Last Meeting

The minutes from the 09-01 ACF meeting were distributed electronically via the NACO website: <http://naco.faa.gov/index.asp?xml=naco/acf> last spring. They were accepted as submitted with no changes or corrections.

III. Agenda Approval

The agenda for the 09-02 meeting was accepted as presented.

IV. Presentations, ACF Working Group Reports, ACF Project Reports

SAE G-10 Electronic Symbology Committee Report

Mr. Ted Thompson, Jeppesen, provided an overview of the committee's ongoing effort to develop a basic, simplified set of symbols for use in electronic aeronautical displays. The goal is to establish symbols that are intuitive and universally recognizable. The FAA intends to use the results as a reference for use in future certification of electronic aeronautical displays. The committee is currently working to complete the text portion of Aerospace Recommended Practice (ARP) document 5289A, to be accompanied by a matrix of representative symbols in graphical form.

The document content, appendixes, and symbol matrix have been finalized. SAE G-10 ARP-5289A was submitted for balloting within SAE International last summer.

Comments were reviewed at the Charting Committee meeting in August and ongoing telecons. The next SAE G-10 meeting will take place in Melbourne, Florida in February 2010.

It is expected that, following disposition of comments, the document will be formally published by mid-2010. Ms. Valerie Watson, FAA commented that the IACC would like to review the final document in order to assess compatibility with current IACC symbology. ICAO and AIR both intend to use the symbology.

ACTION: Mr. Ted Thompson will report on the SAE G-10 Committee at the next forum.

ICAO/IFPP Committee Report

Mr. John Moore, FAA/AeroNav Services, [provided an overview of topics being addressed](#) in the ICAO IFPP group. FAA wants to minimize differences between FAA and ICAO. FAA's ICAO IFPP members intend to coordinate between the U.S. IACC and the ICAO IFPP to address issues of mutual concern and result in collaborative outcomes. Mr. Moore serves as Chair of the IFPP's Integration Working Group (IWG)(charts and database integration) and is also a Technical Advisor to the U.S. Member of the IFPP, Mr. Mike Webb, FAA/AFS-420. Mr. Moore reported that the IWG has Working Papers in progress concerning the following issues:

- GLS procedure publication
- PBN SID & STAR Procedure Titling
- Fixes Abeam Marker Beacons
- Naming of Step Down Fixes
- Terminology Used in PANS OPS & ARINC 424
- Procedure Design Construction Manual
- Altitudes on Terminal Procedures
- RNAV IAC Standardization
- SID & STAR Database Identification in AIP
- Check Altitudes on GLS Procedures
- Descent Fix Versus Step Down Fix
- Minimum Sector Altitude
- RF Leg Data In AIP & ARINC Coding
- Charting of RNAV Routes
- RNP Approach Identification

ACTION: Mr. Moore will report on ICAO/IFPP activities at the next forum.

Airport Source Data Committee

Mr. Charles Adler, under contract to FAA/AAS-100 and representing Mr. Robert Bonanni, FAA/AAS-100, [briefed on the Airport Survey-GIS Program](#). The Airport Survey-GIS Program Vision is to *provide an interoperable web-based system for the collection, management, maintenance and sharing of airport data addressing the needs of*

*the FAA lines of business and the individual airports **collectively** rather than individually.* As reported in previous forums, a new airport-related Advisory Circular and new Form 5010 guidance are being written.

ACTION: Mr. Dave Goehler, Jeppesen, will report on Committee activities at the next forum.

Declared Distances

Mr. Richard Boll, NBAA, [provided the following update](#) concerning the Declared Distance Working Group (DDWG) efforts: They have assisted other efforts currently underway in the FAA to improve the collection and dissemination of declared distance information for FAA Part 139 airports (inclusion of all related data on Form 5010). Work is complete on guidance concerning declared distances for the AIM. Additions include definitions, use of declared distances in meeting runway safety design standards and operational guidance for pilots. The DDWG intends to offer a proposed revision to the AIM 4-3-10 concerning intersection takeoffs. Mr. Boll is currently coordinating with Mr. EC Hunnicutt, FAA/Airports Office, regarding other major AIM sections on declared distances. Revisions to the AIM section on airport markings and signage and to the Pilot/Controller Glossary remain to be completed. The DDWG has coordinated with and has gained commitment from the Airport Engineering Office (AAS-100) to harmonize proposed AIM definition changes to those also contained in FAA AC150-5300-13 Airport Design. The DDWG has provided technical assistance to the USAF on related subject matter. The goal in publishing updated AIM guidance is to provide and promote improved understanding and operational guidance.

The forum discussion touched on the difference between “clearways” and “stopways”. Mr. Boll suggested that the word “stopway” be removed from the legend to resolve any ambiguity.

Mr. Boll reported that all Part 139 airports must provide the declared distances for each runway. Mr. Charles Adler, FAA/AAS-101 CTR, later provided how that data will be collected and stressed the high level of data integrity.

The following outstanding issues remain to be addressed:

- Collection of declared distance information for non-Part 139 airports
- Collection of stopway data on 5010
- Collection of clearway data
- Remove references to “overrun” on civilian airports (military term only)
- Address charted depiction of dimensions (FAA’s TPP legend implies stopway)

ACF-CG Issue 192 can be closed when the reporting of available distances is completed. Issue 09-01-215 will remain open until data collection issues are resolved

ACTION: Mr. Richard Boll will report on Committee activities at the next forum.

ACTION: Ms. Valerie Watson will report back concerning the TPP legend issues.

AC90-105 Status Update

Mr. John Swigart, FAA/AFS-470, provided an overview and update report on the development of the FAA’s new AC 90-105, RNAV RNP, covering terminal operations using RNP navigation systems (ODPs, SID, STAR and Approach procedure types).

AC 90-105 RNP has been signed and is available on the FAA's website.

The AC establishes guidance for RNP equipment and performance requirements.

The most significant aspect affecting charts will be procedural and equipment notes.

Helicopter routes to RNP 2 and 3 will be incorporated into the new AC.

Mr. John Moore, FAA/AeroNav Services, mentioned related work taking place within the ICAO IFPP Integration Working Group. Mr. Moore will contact Mr. Swigart and coordinate on technical issues, documents, etc.

Mr. Tom Schneider, FAA/AFS-420 asked Mr. Swigart if new RNAV/RNP instrument approach procedures covered in AC90-105 will allow DME/DME/IRU, or will be limited to GPS only. Mr. Swigart responded "no", DME/DME/IRU is too expensive and adequate reception coverage cannot be assured. At issue is the existing chart note(s) "DME/DME/IRU RNP 0.3 NA." Mr. Schneider asked if there would be any objections to removing the note. There were none, but Mr. Swigart said he'd "have to discuss it with his boss" (Mr. Mark Steinbicker FAA/AFS-470).

ACTION: Mr. John Moore to provide PBN issues to Mr. Swigart and Ms. Cathy Majauskas.

ACTION: Mr. John Swigart will provide an update at the next ACF.

Engineered Materials Arrestor System (EMAS)

Mr. John Moore reported on his conversation with Mr. David Lewtas, Chief AIS Section, ICAO. ICAO currently has no standard or symbol and no proposal on the table for EMAS. The use of an open rectangle with EMAS label is acceptable to them. Mr. Ted Thompson, Jeppesen, has already modified its charting specification similarly (open rectangle, simple text label, no dimensions). Ms. Valerie Watson, FAA/AeroNav Services, commented that the FAA should be able to implement use of the open rectangle by the end of the year. No issue was submitted; therefore, no issue will remain open. The subject will be removed from the next ACF agenda.

RNAV (RNP) Charting Options

Ms. Valerie Watson, FAA/AeroNav Services, recapped the issue and provided information about recent activities taking place within the FAA and the PARC to address the subject of the complexity of RNAV/RNP approach procedures and the resulting "chart saturation". Reference was made to the recent RNAV/RNP approaches at Boise, ID.

She commented that the challenges are many and options are few. It was decided that the issue would be addressed better by the FAA PARC Charting Committee, led by Mr. Pedro Rivas, ALPA. More on this issue will follow at the next ACF.

ACTION: Ms. Val Watson will report on the status at the next ACF.

Airport Surveying – GIS Program

Mr. Charles Adler, under contract by FAA/AAS-100 represented Mr. Robert Bonanni, FAA/AAS-100, [provided a briefing](#) on the collection, storage, maintenance, input and output of airport GIS data; otherwise referred to as “airport features”.

The referenced FAA website is <https://airports-gis.faa.gov>

The FAA’s electronic Airport Layout Plans (eALPs) are the first output of AAS’ new GIS system. The new GIS system is linked to other FAA databases and includes satellite imagery. The new GIS system is based on the AIXM/XML data model format. The system design is approximately 75% complete and is expected to be completed in Fall 2010. Currently, the new GIS database includes 10-12 airports.

One aspect uncovered by the Airport’s division was the need to come to consensus on a single set of symbols specifically used to represent airport features, not only aeronautical elements but also a variety of surface types and topographical features.

Eventually the data will be provided to the NFDC. The Airport GIS data is not yet publicly available and a policy on public access and dissemination will have to be established. The goal is to provide individual airport authorities the capability to electronically enter information about their airport (alphanumeric data, graphical data, and imagery).

Mr. Dave Goehler, Jeppesen, asked if the Airport GIS work is being coordinated with the development of the new Airport-related Advisory Circular. Mr. Adler responded that, although the system provides the means to collect very precise airport data, the ability of each airport authority to provide compatible data (electronic access to the system) varies widely.

Mr. Roy Maxwell, Delta Airlines, spoke about the need to have processes in place for maintaining the data, including a “temporal” environment (change management in X, Y & Z axis). He also asked if the new system would be capable of automatically “pushing” change data to a user via a user interface. The response was “changes would be provided by the NFDC and that actual processes have yet to be defined.”

The sentiment expressed by several interested users in attendance was “don’t develop a highly capable electronic airport GIS database but then provide information in the form of ‘dumb paper’ output”.

Ms. Valerie Watson, FAA/AeroNav Services, asked how detailed data for 16,000 airports in the U.S. would be collected, populated and maintained in a timely manner. This sentiment was expressed in light of existing backlogs and resource constraints evident in the NFDC. Other than that data received from surveys, the data sources have not been defined. Ms. Watson also asked whether SMGCS data would be included in Airports GIS. Mr. Hunnicutt mentioned that though new data attributes were still being added, he was not sure that this particular information would be included.

Mr. Ted Thompson, Jeppesen, asked if there would be processes in place to reconcile relationships and changes to individual features, such as runway end changes affecting approach procedures. Given the amount of interest, especially about availability, access, and coordination of change management, Mr. John Moore, FAA/AeroNav Services, asked if the Airports group (Charles Adler or EC Hunnicutt) would continue to provide updates to the ACF. Subject will remain on the agenda for future ACF meetings.

It was acknowledged that designing the Airport GIS system is one thing – actually collecting and populating the system is an entirely different matter.

ACTION: Mr. E.C. Hunnicutt or Mr. Charles Adler will provide an update at the next ACF.

V. Outstanding Issues

04-01-168 Identifiers for Heliports and Helipads

Mr. Mike Webb, FAA/AFS-420, was not present. Mr. John Moore said that Mr. Webb would address the issue in the future. Mr. EC Hunnicutt offered to take the issue of Heliport Identifiers back to his office to work.

Note: This item also relates to ACF Issue 05-02-177, Identifiers for Copter Point-in-Space procedures. It was decided at the 08-02 ACF to combine the two issues into one.

STATUS: OPEN

ACTION: Mr. Hunnicutt to work the Helicopter Ident Issue at his office.

ACTION: Mr. Mike Webb will report on issue at the next ACF.

04-02-170 Idents & Coordinates for Parachute Jump Areas (PJA)

Mr. George Sempeles, FAA/NFDC, reported that the USPA intends to contact OEMs to present the case for having manufacturers include the PJA data in electronic displays and moving maps.

Status will remain open pending confirmation of inclusion of all "official" PJA source by Mr. Sempeles, including final inputs on PJAs from the Eastern Region.

STATUS: OPEN

ACTION: Mr. George Sempeles will provide an update at the next ACF.

05-02-177 Identifiers for Copter Point-in-Space Procedures

Mr. Mike Webb, FAA/AFS-420, was not present. No progress report was available.

Note: This item relates to ACF Issue 04-01-168, Identifiers for Heliports and Helipads. It was decided to combine the two issues into one. See issue 04-01-168 Identifiers for Heliport and Helipads. This issue will remain open until the related issue closes.

STATUS: OPEN

05-02-179 Attention All-Users Page for Simultaneous, Parallel RNAV Departures & PRM Approaches

Mr. John Swigart, FAA/AFS-470, reported that no significant progress had been made. The issue is also being addressed within the RNAV/RNP program office by Mr. Jim Arrighi, FAA/AJR-37.

STATUS: OPEN

ACTION: Mr. John Swigart will provide an update at the next ACF.

[07-01-192 Recording, Reporting and Dissemination of Usable Lengths for Takeoff and Landing](#)

Note: This agenda item also relates to ACF agenda item 06-01-181 Declared Distance Information on Airport Charts (since closed in ACF 07-01).

Mr. Richard Boll, NBAA, is chairman of the ACF Declared Distance Working Group. The agenda item is under the scope of this group.

NBAA's concern about declared distances has been partly addressed by the FAA's actions to improve collection of distances for FAR Part 139 airports. He agreed that once the collection issues for non-Part 139 airports have been satisfied, NBAA would agree to close 07-01-192.

STATUS: OPEN

(See [Declared Distance Working Group Update](#))

ACTION: Mr. Richard Boll will report at the next ACF.

[07-01-193 Charting Helicopter RNAV Routes](#)

Mr. Paul Ewing, FAA/Air Traffic RNAV-RNP, reported that the FAA has formally decided to use the prefix "TK" to designate Helicopter RNAV routes. Mr. Ewing will coordinate with Ms. Valerie Watson, FAA/AeroNav Services, regarding the IACC specifications. The goal is to have the FAA charting and database specs in place prior to actual rulemaking for the first helicopter route.

Mr. Mike Hilbert, FAA/AJR-37, will provide Ms. Watson with a list of locations where TK routes are planned. Ms. Watson will circulate the list for planning purposes within the FAA, with a copy to Mr. Ted Thompson, Jeppesen. At the present time, there is one TK helicopter route planned for use in the U.S. Northeast. It is estimated that there might be as many as 200 such routes in the NAS in the future. Some discussion followed concerning the potential for increased chart clutter on IFR enroute charts.

STATUS: OPEN

ACTION: Mr. Paul Ewing, FAA/AJR-37, will report back at the next ACF.

ACTION: Ms. Valerie Watson, FAA/AeroNav Services, will draft an IACC RD for coordination and report back on its status at the next ACF.

[07-01-195 Charting and AFD Information Re: Class E Surface Areas](#)

Mr. Paul Gallant, FAA/Airspace & Rules, was not present to provide an update.

STATUS: OPEN

ACTION: Paul Gallant, FAA/Airspace & Rules, will re-write the AIM Chapter 3 and will report back at the next ACF.

[07-01-196 Q Route DME/DME IRU MEA](#)

Ms. Valerie Watson, FAA/AeroNav Services, reported on the approval of an IACC RD outlining the proposed chart depiction to use a “D” suffix for DME/DME MEAs on High Altitude Charts. All affected Q-Route MEAs will be modified at one time. The Specification had been signed and will take effect on December 17, 2009.

STATUS: CLOSED

[07-02-198 Use of Charts to Validate Navigation Database Information](#)

Ms. Valerie Watson, FAA/AeroNav Services, reported that the specification had been signed to implement the “procedure reference date” and will take effect beginning October 22, 2009 for all original and amended IAPs. An explanatory chart notice will be issued and AIM changes will be submitted by Flight Standards.

STATUS: CLOSED

[07-02-200 Charting of Alert Areas](#)

Ms. Valerie Watson, FAA/AeroNav Services, reported that the specification for changing colors of Alert Areas had been signed and has been implemented on IFR Enroute Charts. The Visual Chart implementation has begun, but will take some time to complete due to their charting schedule.

STATUS: CLOSED

[07-02-201 Charting of Flight Training Areas, USAF Academy](#)

Mr. Hal Becker, AOPA, asked to close the issue since the U.S. Air Force Academy changed their training program. The recommendation is moot at this point.

STATUS: CLOSED

[07-02-204 Continued Charting of Airports “Closed Indefinitely”](#)

Mr. John Moore, FAA/AeroNav Services, recapped the issue for the forum. Mr. EC Hunnicutt, FAA/Airports Office, received a listing of “closed indefinitely” airports from Mr. Chris Criswell, FAA/NFDC, but has not had the time or staffing to take any action. Mr. Brad Rush, FAA/AeroNav Services confirmed that there were no existing procedures at any of these airports.

STATUS: OPEN

ACTION: Mr. E.C. Hunnicutt will report on the status at the next ACF.

[08-01-206 Runway Status Lights Information Charts for Pilots](#)

Mr. Dale Bryan, Veracity Engineering, provided an update to the forum. Runway Status Light (RWSL) information has been published in the AIM. The understanding is that when an RWSL system at an airport comes

out of testing and is officially made operational, the program office will coordinate with NFDC to disseminate via the NFDD an appropriate Airport Note which will be added to the A/FD and added to Airport Diagrams.

Implementation of the first certified RWSL system in Orlando is scheduled for March 2010. Boston will be added in Summer 2010, followed by Dallas, San Diego and Los Angeles. AeroNav Services does not intend to chart actual RWSL in-pavement lighting, but will add a boiler plate note to both the airport remarks section of the A/FD and the Airport Diagram. Mr. John Moore, FAA/AeroNav Services, suggested closing the issue on the grounds that, from a charting perspective, the specifications have been written. Now we are waiting for the source from NFDC.

STATUS: CLOSED

08-01-207 Depiction of Minimum Crossing Altitudes on Graphic Departure Procedures

Ms. Valerie Watson, FAA/AeroNav Services, reported that the IACC RD had been approved and has been implemented. She remarked that only a few charts now exist which require the ATC MCA. Some SIDs and STARs are affected. Mr. Tom Schneider, FAA/AFS-420 said the AIM change had been made. Unannotated crossing altitudes are now assumed to be based on obstacle clearance or noaid reception. Those annotated "ATC" are published for Air Traffic purposes.

STATUS: CLOSED

08-01-208 TPP Rate of Climb Table Improvements

Ms. Valerie Watson, FAA/AeroNav Services, reported that IACC approval has been obtained for adopting the combined Climb/Descent Table currently published by DoD/NGA. AeroNav Services will put the table on the inside back cover of the TPPs. The change will be effective on the February 11, 2010 charting cycle.

STATUS: CLOSED

09-01-212 Depiction of High Volume UAS Activity on VFR Sectionals

Ms. Valerie Watson, FAA/AeroNav Services, reported that she has been working with Mr. Lance Christian, NGA, on a prototype symbol. Sources for the geographic boundaries of UAS Activity Areas are still problematic. Before a proposed IACC Requirement Document (RD) is submitted, the source and coordination issues would need to be discussed.

STATUS: OPEN

ACTION: Ms. Watson or Mr. Christian will report back at the next ACF.

09-01-213 TERPs Change 21 Circling Approach

At the 09-01ACF in April Mr. Richard Boll, NBAA, agreed to provide specimen tables that correlate aircraft categories to new circling radii under new TERPS Change 21 criteria. These tables could perhaps be published in the front of the TPPs. Mr. John Moore, FAA/AeroNav Services, responded that "these tables did not belong in the front of the TPPs since this was not a safety of flight issue" and regarded it as more of a training issue. Mr.

James Spencer, NAVFIG, agreed. Mr. Brad Rush, FAA/AeroNav Services, commented that “circling tables haven’t been published in the TPPs for nearly forty years and the TPPs were not the place for it.”

Representatives from ALPA, NBAA and Lido prefer the alternate idea of placing the actual CAR values on the IAP charts. Therefore, AeroNav Services agreed to create a prototype to reflect the idea of putting the CAR value for each category of aircraft in the minimums table. If neighboring categories of aircraft share the same CAR value, the categories could be combined. (i.e. Cat A & B have same circling MDA-Vis, but chart only the Cat B circling radius)

It was suggested that the FAA’s General Counsel be involved before writing any implementation policy. Another suggestion was made that perhaps the issue may need to go through the FAA’s Safety Management System (SMS) process, where risks would be assessed and mitigation provided as necessary.

Mr. Tom Schneider, FAA/AFS-420, said the CAR radii should be documented on the 8260-3 (dash 3). An implementation meeting between AFS, TJ Nichols and Harry Hodges was proposed and, once the charting aspect was sorted out, AIM guidance written.

STATUS: OPEN

ACTION: Mr. Brad Rush, FAA/AeroNav Services, will report at the next ACF.

[09-01-214 SMGCS Taxi Charts](#)

Mr. Bruce McGray, FAA/AFS-410, reported that the FAA Joint Order was going through formal coordination and that SMGCS charts would become an FAA requirement. He expected the order to be signed by the Administrator in the near future. Mr. McGray mentioned that details concerning chart depiction, symbology, etc., have yet to be addressed and that a working group should to be established.

STATUS: OPEN

ACTION: Mr. Bruce McGray will provide update at the next ACF.

[09-01-215 Reporting and Depiction of Stopways](#)

Refer to Mr. Rich Boll’s, NBAA, update presented earlier in these minutes.

STATUS: OPEN

(See [Declared Distance Working Group Update](#))

ACTION: Mr. Richard Boll will report back at the next ACF.

[09-01-216 Charting of Significant Points Not Part of the Procedure](#)

Mr. Brad Rush, FAA/AeroNav Services, reported that the eight procedures affected would be modified for the July 2010 airspace cycle.

STATUS: CLOSED

[09-01-217 Cat II Minima Depiction](#)

Ms. Valerie Watson, FAA/AeroNav Services, reported the 8260.19D changes in CAT II minima format and recommendation of the ACF has prompted the charted depiction of all current CAT II procedures minima be revised. The IACC Editorial Change (EC) to the specifications has been signed and the change will be implemented to all affected charts for the December 17, 2009 effective date cycle.

STATUS: CLOSED

VI. New Charting Topics

09-02-218 Incompatibility Issues of Enhanced Flight Vision Systems (EFVS) with Light Emitting Diodes (LEDs)

Mr. John Moore, FAA/AeroNav Services, presented the issue for Mr. Alvin Logan, FAA/AAS-100, who was not available. EFVS is an infrared (IR) based system that utilizes conventional (incandescent) approach light and runway/taxiway lighting fixtures. EFVS operate in the Near IR band and Mid Wave band (1.2 – 5 um) range. Performance in fog has been proven with the human eye, a result of transmission of near and mid wave IR through the atmosphere. Light in the normal spectral regions cannot penetrate fog, haze, snow and other low visibility obscurants like infrared-based EFVS systems. The IR emitted by the incandescent lighting technologies enables the EFVS.

The Office of Airports, in accordance with FAA Advisory Circular 150/5340-30D and Engineering Brief 67, has recently deployed a limited number of airport taxiway and runway LED lighting technologies. IR emissions associated with LEDs are essentially zero, therefore disabling the ability of the EFVS to provide airport lighting cues on approach and/or taxing.

The recommendation was made to place a note or “negative symbology” on TPPs, A/FDs and any other documents to indicate that LED lights are installed. This will notify the pilot of EFVS-equipped aircraft that LEDs are installed and that the runway/taxiway lighting may not be visible when using the EFVS. The consensus from pilots present was that this information would be valuable. Mr. Ted Thompson, Jeppesen, expressed concerns about source reliability on providing and maintaining the specifics of LED lighting installation availability. This would include if an airport has installed LED lighting, which airport lighting components might be involved, i.e., runway edge lights, taxiway lights, etc., and what additional limitations may exist, i.e., first 500 feet Taxiway X LED lights, etc.

The ACF fully realizes that the collection and maintenance of airport-related source data is a major outstanding issue to be overcome. The availability of source information for LED lighting systems represents yet another weakness in that the information cannot be charted, either as a general airport note or a specific graphic, if there is no reliable source.

Mr. EC Hunnicutt, FAA/Airports, suggested that airport surveys could be used to collect LED lighting information. Mr. John Moore, FAA/AeroNav Services, noted that, even if airport surveys could collect the data, it would be difficult to communicate to the pilot the details of exactly where the LEDs are positioned. Ms. Valerie Watson, FAA/AeroNav Services, voiced the opinion that if any action is taken to inform the pilot of the presence of LED lighting at an airport, specifics not be given, but only a simple indication that LED lighting exists. Tracking and publishing in detail which twy, rwy, apch, etc., lights are affected is not feasible. More discussion is needed before any charting solutions are proposed.

STATUS: OPEN

ACTION: Mr. Logan will provide a follow-up at the next ACF.

09-02-219 VFR Chart Enhancements

Mr. George Sempeles, FAA/ATO-R, briefed the issue, referring to a 2003 CAST study performed to reduce the risk of fatal aviation accidents by 80% since 1998. They estimated a remaining risk of 27% to reach their goal.

Five accidents and one near-collision were analyzed as part of the midair review. Several of the accidents investigated involved VFR aircraft unknowingly straying into protected airspace due to the inability to ascertain

where they were. The analysis linked these accidents to issues with the airspace design and with the complexity of the VFR charts used by the pilots.

The analytical arm of CAST, [the Joint Implementation Measurement and Data Analysis Team \(JIMDAT\)](#), evaluated the proposed safety enhancements aimed at addressing these problems. Included were the recommendations that regulators simplify and standardize the design of Class B airspace, VFR charts be enhanced to aid in the recognition of that airspace, enhance the recognition and correlation of ground reference points related to airspace boundaries, and enhance VFR routes to ensure they are easily-identifiable.

The following recommendations were included in the CAST safety plan:

- 1) Eliminate hypsometric tint (i.e. apply a “white mask” to the color tint used for terrain contours/shaded) along the outer boundaries of Class B airspace areas in order to enhance its identification on VFR charts. An example of this enhancement is found on the Washington VFR chart series with the Washington DC Metropolitan Area Special Flight Rules Area symbol.
- 2) Eliminate hypsometric tint (place a “white mask”) behind VFR checkpoint descriptive text. An example of this enhancement is found on VFR charts where the hypsometric tint has been eliminated from under the height value of the highest obstruction on a visual chart.
- 3) Eliminate hypsometric tint (place a “white mask”) inside VFR Transition Route symbols, i.e., the “open directional route arrows” shown on the LAX TAC chart. An example of this enhancement is found on VFR charts where the hypsometric tint has been eliminated inside airspace frequency boxes on visual charts.

Mr. Hal Becker, AOPA, commented that his organization would support any enhancement that would improve chart readability to address airspace recognition and avoidance/compliance. However, he would like to see some actual prototypes of the FAA’s VFR chart products and possibly some human factors and pilot focus group evaluations made. There is a possibility that so many ‘enhancements’ will actually result in chart clutter and defeat the purpose.

Mr. Paul Gallant, FAA/AJR33, asked if there is an electronic display difference between raster and vector chart output. Mr. Ted Thompson, Jeppesen, answered, “yes, there is”. Electronic displays of pre-composed charts in raster form would result in the same appearance evident on the corresponding paper charts. However, some electronic display devices that dynamically display shaded relief/terrain contours and airspace boundaries might not apply the same recommendations. Also, dynamic displays have unique factors to consider such as screen resolution, update/refresh rates, etc.

A comment was made that regardless of depiction details, pilots are still expected to plan, review, and brief aspects of their route of flight, even if operating VFR in complex airspace environments.

STATUS: OPEN

ACTION: Mr. Eric Freed, FAA/AeroNav Services, Visual Charting and Airport Mapping Team agreed to create a series of prototypes to illustrate the various recommendations. To be presented at the next ACF.

[09-02-220 Multiple Intermediate Segments in Recent RNP AR \(SAAAR\) IAPs](#)

Mr. Richard Boll, NBAA, presented the issue and suggested that until the larger issue of RNAV RNP approach chart complexity is resolved through the FAA PARC Charting WG review, the “waivered” public use RNAV AR procedures, i.e. Boise and Lewiston, should be withdrawn from public use. Instead, these public use procedures

should be restricted for use only by approved operators who accept the waiver to not chart the 5 intermediate fix route segments in the profile view.

Mr. Tom Schneider, FAA/AFS420, suggested another option could be to chart only the IF route that is aligned to the FAC. This idea was not received well, and some commented that it could be misleading and might cause additional misunderstanding. In the case of Boise, only 1 of 5 routes would then be shown in the profile.

Mr. Schneider then suggested that maybe a reference note could be added to the profile view to tell pilots to refer to the chart planview for IF route segment information.

It was discussed that the FAA PARC Charting WG, led by Mr. Pedro Rivas, ALPA, has been tasked with reviewing RNAV RNP Chart Saturation regarding these types of situations and will provide recommendations.

Mr. John Moore, FAA AeroNav Services, and Mr. Schneider commented that the ACF does not have the authority to suspend any program, including RNAV AR procedure development.

It was mentioned that the PARC Charting WG plans to complete its review of RNAV RNP Chart Saturation and provide recommendations to the PARC by April 2010. An alternative would be to carry the issue until the next ACF pending ACF consideration of the PARC's recommendations.

Still at issue is how many public use RNAV RNP AR procedures with multiple IF segments are "in the pipeline" and might be released in the interim. Mr. Schneider said there are several such procedures in work.

STATUS: OPEN

ACTION: Mr. Richard Boll will coordinate with Mr. Brad Rush, FAA/AeroNav Services, as to a point of contact within AeroNav Services management to express NBAA's concern.

ACTION: Mr. Pedro Rivas to report on recommendations from the PARC.

09-02-221 Navigation of Class B Airspace Using US Government-Produced VFR & IFR Charts

Mr. Richard Boll, NBAA, presented the agenda item to the forum. The recommendation is based on the use of VFR charts, as supplements or orientation, while operating in IFR conditions. Similar to agenda item 09-02-219, the core issue is being able to recognize and maneuver an airplane to avoid penetration of Class B controlled airspace, while adhering to speed restrictions and ATC clearances.

One issue is recognition of the lateral and vertical limits; another is the lack of or unusual definitions of lateral limits (sector boundaries/description or definition of lateral limits), whether defined by navigation aids or by VFR boundaries, such as "thence along" a highway or river.

The recommendation also requests an expansion of the number of locations where FAA Class B VFR TAC charts are provided, as well as the inclusion of lateral limit definitions/descriptions on IFR enroute charts.

Mr. Ted Thompson, Jeppesen, noted that they already include the vertical and lateral limits of Class B airspace on their IFR Low Altitude enroute charts. The caveat is that only those boundaries defined by nav aids are included (radials, distances).

Mr. John Moore, FAA/AeroNav Services, asked Mr. Boll to help define how many operators are affected (with regard to the significant impact that would result from implementation of the recommendation). Mr. Boll replied that he believes it's a common problem for operators using high performance turbine powered aircraft

due to airspace speed restrictions vs. ATC clearances. These aircraft are operating in and out of satellite airports that many times are adjacent to or just outside of Class B airspace.

Mr. Hal Becker, AOPA, stated that the issue is not a significant concern for his constituents. He also acknowledged the difficulties in overcoming the complexities described above.

The question was raised whether or not it's realistic to create waypoints to define Class B airspace sectors and boundaries and would then need to be included in navigation databases. Mr. Thompson commented that doing so exposes several other database considerations such as the increase in number of waypoints, whether OEMs or operators would opt to receive (or filter out) those waypoints as part of the data extracts or databases provided their OEM. Mr. Brad Rush, FAA/AeroNav Services, commented that there are some 54,000 fix/waypoint names available.

Mr. Thompson mentioned that many electronic moving map displays already provide the dynamic display of Class B airspace areas. The ideal solution is the use of a dynamic display along with an "own ship" position indicator. Mr. Boll agreed.

Mr. Roy Maxwell, Delta Airlines, suggested that instead of a charting issue, given the increasing use of vertically guided Arrivals and Departures, perhaps there is a need to re-evaluate the definition of Class B airspace.

STATUS: OPEN

ACTION: Mr. Hal Becker agreed to work with Mr. Boll to help identify the scope of the problem.

[09-02-222 Charting VGSI Angles](#)

Mr. Bryant Welch, FAA/AFS-410, [presented the issue](#) to the forum. The focus of the recommendation concerns procedures where the FAA has defined and provided the VDA, which may or may not be coincident with the VGSI. The recommendation suggests that all VGSI angles should be published on the chart. The solution involves procedure design consideration and the availability of the necessary vertical angles (VDA in relation to VGSI) as part of the 8260.

It was acknowledged that the differences between VDA and VGSI angles, as a piloting technique, is explained and "cautioned against" in the AIM.

Mr. Ted Thompson, Jeppesen, explained that in order to help define the scope of the situation, in cases where Jeppesen computes and provides a VNAV angle (when not provided by the official procedure source), Jeppesen will use the VGSI vertical angle as the VNAV angle on runways where a VGSI is available and is between 2.50 degrees MIN and 3.77 degrees MAX.

8260.19 guidance already provides for a chart note "VGSI and glidepath not coincident" to be published in the profile section when the VGSI and glidepath angles/vertical descent angles are not coincident (angles within 0.2 degrees and TCH values with 3 ft.). Ms. Watson pointed out that even when the glideslope is 3.00 and the VGSI is 3.00, the angles may not be coincident due to differing TCH. In such cases, providing users with the numerical VGSI may be cause it to be incorrectly interpreted as coincident with the glideslope/path.

Ms. Valerie Watson and Mr. Brad Rush, FAA/AeroNav Services, each pointed out the impact of monitoring and maintaining VGSI data on 8260s and the affect on chart revisions.

Mr. Bill Hammett, Contract Support for FAA/AFS-420, suggested that additional information be added to the airport diagram or alternatively, perhaps the FAA should consider a more comprehensive airport information page for the TPP much like the Jeppesen 10-1.

Mr. John Moore, FAA/AeroNav Services, summarized that the recommendation does not address all aspects of the issue and also affects procedure design criteria as well as charting.

Mr. Welch was requested to go back to the proponent, Ms. Terry Stubblefield, FAA/AFS-410, and brief the results of the discussion within the ACF and attempt to clarify the focus of the concern and help define the intended scope.

STATUS: OPEN

(See Attachment # 6 – VGSI Charted Angle Examples)

ACTION: Mr. Bryant Welch will clarify the scope of the issue and report back at the next ACF.

[09-02-223 Publishing RVR for Category III Instrument Landing System \(ILS\) Approaches](#)

Mr. Brad Rush, FAA/AeroNav Services, recommends changing the documentation requirement to provide either NA (Not Authorized) or an RVR value, even if the value is Zero.

The recent Change 3 to 8260.19D contains instructions to use the term N/A (“N slash A”) for Not Authorized instead of NA (for Not Applicable) on ILS CAT IIIC minimums.

According to Mr. Tom Schneider, FAA-AFS-420, this was done to provide conformance between 8260.19D and related operational guidance in FAA Advisory Circular 120-28, FAR Part 1, and other guidance documents. A concern is potential confusion over the two abbreviations N/A vs. NA where it might be misunderstood to either mean Not Applicable or Not Authorized. The terms have different meanings.

Mr. Bryant Welch, FAA/AFS-100, expressed concern about the use of Zero to indicate “Not Applicable” because of possible misinterpretation as meaning aircrews to imply authorization to fly down to Zero/Zero instead of being “Not Authorized”.

One suggested alternative would be to spell the term out in plain language.

The assumption is that whatever the decision, the abbreviation, value, or verbiage will be provided in the 8260 source document, which will ultimately drive the chart depiction.

STATUS: OPEN

ACTION: Mr. Schneider and Mr. Brad Rush will work with Mr. Welch to consider alternatives and implications and report back at the next ACF.

[09-02-224 Charting G-MEA on U.S. Low Altitude Charts](#)

Mr. Paul Ewing briefed the issue to the forum. This subject involves a proposed change on FAA Enroute Low Altitude Chart legends. The meaning of G-MEA would change from GPS/WAAS MEA to GNSS MEA. It is the result of an inconsistency in charting the route data for the G-MEA on high and low altitude charts for both CONUS and Alaska.

The recommendation is to change the chart legend for the G-MEA on the U.S. Enroute Low Altitude chart to "MEA for GNSS RNAV", as is done on the high altitude charts. Alaska charts should reflect requirements determined by AFS.

STATUS: OPEN

ACTION: Ms. Valerie Watson, FAA/AeroNav Services, will work the change with the Enroute team.

[09-02-225 Charting Special Authorization \(SA\) CAT I and SA CAT II Approach Procedures](#)

Mr. Bryant Welch, FAA/AFS-410, [briefed the issue](#) to the forum. To help simplify all CAT I and II ILS minimums, and avoid additional lines or additional ILS Z and ILS Y charts, they are proposing new charting designations of SA CAT I and SA CAT II. The recommendation affects all current SA CAT II approach procedures (BOS 33L; SEA 34R, 34C, 34L; BOI 10R; PIE 17L; PHL 27R; PIT 28R), and possibly some SA CAT II procedures in development. To date, no SA CAT I approaches have been developed.

Applicable information would be provided on the 8260 source document and would be charted accordingly (government and commercial approach charts).

Mr. Richard Boll, NBAA, asked if consideration had been given to use the abbreviation AR (Authorization Required) instead of SA (Special Authorization). The answer was 'Yes', but SA was intentionally chosen to avoid possible misinterpretation or unintended and incorrect connection to RNP AR procedure authorization requirements.

Mr. Brad Rush, FAA/AeroNav Services, expressed concern that the proposed use of the parenthetical (SA CAT II) as a supplement to the procedure title is contrary to accepted ICAO procedure title conventions - which the FAA itself had originally promoted and which ICAO had accepted. Mr. Rush believes that ILS SA CAT I or II procedures should be titled ILS-Z, -Y, and -X procedures.

Mr. John Moore, FAA/AeroNav Services, pointed out that Mr. Welch's recommendations do not represent charting problems. Instead, they represent procedure design criteria and application impacts. There are both 8260 and ATC implications.

STATUS: OPEN

ACTION: Mr. Bryant Welch agreed to take the results of the ACF discussion back to his office, brief his colleagues, and come back to the next ACF and report the results.

09-02-226 Mandatory Altitude Note on Teterboro ILS Rwy 6

The general consensus of the group is that this is not a charting problem. It's an issue of airspace utilization and procedure design.

Dr. Divya Chandra, US DOT Volpe, stated that her team has reviewed the circumstances from a human factors perspective and that the situation at TEB represents a "trap" because the crossing altitudes and GS intercept situation at TEB is "not intuitive". She does not believe that chart changes in the profile view or the addition of an added note will fix the problem - "charts are not the fundamental problem."

Mr. Brad Rush, FAA/AeroNav Services, noted that they would re-evaluate the ILS Rwy 6 approach procedure with the intent to redesign the procedure and relocate the IAF fix to improve the MIN ALT and GS INCPT issues. The re-evaluation will also consider the local circumstances involving overhead traffic clearance and obstacle clearance requirements.

It was also noted that several of Mr. McGray's other general recommendation issues are already within the scope of the FAA PARC Charting Committee. It was suggested that Mr. McGray contact Mr. Pedro Rivas, ALPA, to communicate his general concerns and establish an information exchange between the two.

Mr. Hal Becker, AOPA, mentioned that there's a Northeast Region Airspace Working Group that might be an appropriate forum to ensure the TEB issue is included in that group's activity.

There was some talk among FAA representatives about the possibility of having Flight Standards and others within the FAA establish a group to collect and address potential "local procedure/airspace problems" across the NAS.

STATUS: OPEN

ACTION: Mr. Bruce McGray will coordinate within the FAA to establish an internal FAA group to evaluate these kinds of problem procedures.

ACTION: Mr. Brad Rush will coordinate within AeroNav Services to have the TEB procedure re-evaluated as mentioned above.

09-02-227 Class-D Airspace Depiction on Sectional Charts

Mr. John Moore, FAA/AeroNav Services, briefed a recommendation to modify US VFR Sectional charts by eliminating the hypsometric tint along Class E airspace boundaries instead of using the current magenta vignette. The purpose would be to improve readability of information that is otherwise overprinted. Given the volume of Class E airspace areas on VFR Sectional Charts, the implications of this change would be very significant. There was uncertainty on whether this recommended change would have positive or negative affects.

Mr. Richard Boll, NBAA, suggested an alternative might be to leave the magenta Class E airspace boundary as is, but possibly use a white mask (halo effect) around underlying symbols / text labels that are overprinted by the Class E boundary. Another idea would be to review the specifications for placing text labels inside Class E airspace boundaries.

STATUS: OPEN

ACTION: Mr. Eric Freed, FAA/AeroNav Services, agreed to investigate the potential positive or negative effects by producing prototypes which will be presented at the next ACF.

VII. Closing Remarks

Mr. John Moore thanked everyone for their participation. A special thanks was extended to Mr. Debbie Copeland for providing homemade snacks for the three-day event. Notice of the official minutes will be announced via email and provided via the Internet. The two website addresses (CG and IPG) are provided below:

- <http://naco.faa.gov/index.asp?xml=naco/acf>
- http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs420/acfigg/

VIII. Next Meeting

The next meeting of the ACF (10-01) will be held April 27-29, 2010, and is being hosted by the Air Line Pilots Association (ALPA) at their offices in Herndon, Virginia.

ACF 10-02 will be held October 26-28, 2010, and is being hosted by MITRE at their offices in McLean, Virginia.

NOTE: These locations are different than what was announced at ACF 09-02. Both ALPA and MITRE graciously offered their meeting room facilities after the conclusion of ACF 09-02 and the Co-Chairs of the ACF agreed to the change of venues for 2010.

Please note the attached Office of Primary Responsibility (OPR) listing for action items (Attachment 5 Office of Primary Responsibility (OPR) Action List). It is requested that all OPRs provide the Chair, John Moore, (with an information copy to Mr. Jim Grant) a written status update on open issues no later than April 2, 2010.

Note – These status reports will be used to compile the minutes of the meeting and will be the “for the record” statement of your presentation. A reminder notice will be provided.

A special thanks to Mr. Ted Thompson, Jeppesen, for providing his meeting notes for use in these ACF minutes.

IX. Attachments

1. Attendees/Mailing List
2. Office of Primary Responsibility Action List

ACF Website URL Disclosure: Website URLs included these minutes were accurate and reflect the URL address at the time these minutes we drafted and approved.