

## Government/Industry Aeronautical Charting Forum (ACF)

Meeting 05-01

May 11 to May 12, 2005

### MINUTES

#### I. Opening Remarks

The Aeronautical Chart Forum (ACF) was held at the National Aeronautical Charting Office (NACO) facility in Silver Spring, Maryland. Mr. Dick Powell, Aeronautical Information Services, the ACF Co-Chair, opened the Forum on May 11, 2005 with thanks to NACO and NACO representatives for hosting the meeting.

Mr. Powell welcomed the ACF participants and announced that he was stepping down as the ACF Co-Chair. Mr. Powell acknowledged his staff, Ms. Valerie Watson, Mr. George Sempeles, Ms. Kristina Overby, and Ms. Carol Collins and thanked the ACF Secretaries who were instrumental to the success of the ACF.

Special thanks were given to the ACF Members for their attendance, active participation and support over the years. Mr. Powell introduced Mr. John Moore, NACO, as the new ACF Co-Chair and Chair of the Aeronautical Chart Forum, Charting Group. Mr. Moore thanked Mr. Powell and stated that the basic format of the ACF will not change. Some minor administrative changes may occur.

Mr. Eric Secretan, NACO, recognized Mr. Powell, thanking him for his dedication and hard work over the years. Mr. Moore acknowledged the ACF Co-Chair Mr. Tom Schneider, AFS-420. Mr. Schneider chaired the ACF Instrument Procedures Group meeting held on May 9, 2005. Separate minutes of that meeting will be distributed.

#### II. Review of Minutes from Last Meeting

The minutes from the 04-02 ACF meeting were accepted with the following correction:

##### Section V Outstanding Issues:

***04-02-169 Location of PRM Monitor Frequency on NACO Charts for ILS PRM and LDA PRM Approaches***, first paragraph, line six, Minneapolis St Paul Intl (Wold-Chamberlain), MO, to read Minneapolis St Paul Intl (Wold-Chamberlain), MN.

#### III. Agenda Approval

The agenda for the 05-01 ACF meeting was approved with the following modifications:

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

Change ***High Altitude Redesign Update FAA/John Timmerman*** to read ***High Altitude Redesign MITRE/Robert Boetig***;

Change ***ALPA PARC Working Group Lead Perspective on RNP Charting ALPA/Pedro Rivas*** to read ***ALPA PARC Working Group Lead Perspective on RNP Charting ALPA/Kevin Comstock and Mark Ingram***; and

Add ***NBAA Letter Source for RNP Charting and Jeppesen RNP Chart***.

## Section V. New Charting Topics

Change item **04-02-173 ASR Symbol on Visual Charts** to read **05-01-173 ASR Symbol on Visual Charts**;

Change item **04-02-174 Top Altitude Note on SIDs** to read **05-01-174 Top Altitude Note on SIDs**;

Change item **04-02-175 VOCA (Visual Climb Over Airport)** to read **05-01-175 Adding Flyway Planning Charts to the SRAC Product** submitted by AOPA; and

Add item **05-01-176 Charting of Radius-to-Fix (RF) Legs/Path Terminators** submitted by FAA/AFS-410.

**Note:** The ACF ICAO Identifier Working Group briefing was inadvertently omitted from the agenda and will be added to the 05-02 ACF agenda.

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

### High Altitude Redesign Update

Mr. Robert Boetig, MITRE-CAASD, [updated the ACF on the High Altitude Redesign](#). Mr. Boetig stated, Phase 1 'Expansion,' expands the airspace to an additional seven ARTCCs. That includes Los Angeles, Jacksonville, Fort Worth, Miami, Memphis, Albuquerque, and Houston. The expansion lowered the non-restrictive routing (NRR) floor to FL350, established waypoints around the perimeter of SUA/ATCAA, and adds additional Q routes and Navigation Reference System waypoints within these additional center boundaries.

Phase 1 Initial 'Rollout' established the initial set of waypoints around the perimeter of SUA/ATCAA to minimize the impact of flights within the HAR environment. Waypoints have been established around the perimeter of SUA/ATCAAs within the new center boundaries. Pilots should flight plan around these areas using the waypoints when the SUA and ATCAAs are active. These waypoints are being used by ATC to reroute aircraft should an unanticipated activation occur. The special use airspace website ([sua.faa.gov](http://sua.faa.gov)) provides a complete listing of ATCAA, Restricted, Prohibited, and Warning Area schedules and locations.

Navigation Reference System (NRS) waypoints continue to be installed across the remaining contiguous 48 states using the initial 1/6 coarse density. This density is effectively every other line of longitude and every thirty minutes of latitude. Effective May 12, 2005, an additional 556 NRS waypoints will be charted. Currently there are less than 1000 NRS waypoints. Mr. Boetig stated that Cleveland Center has requested that the NRS waypoints be dropped to the low structure. Mr. Brad Rush, NFPO, questioned if Air Traffic Control (ATC) was using the NRS waypoints. Mr. Boetig responded that the waypoints are slowly coming into use by ATC.

Within the 'Expansion' area boundaries the first set of approximately 15 Q Routes will be effective 1 September 2005. Mr. Boetig stated that in the future routes would be established especially along the East Coast. Some new seasonal 'Snowbird' Q routes will be established from Jacksonville to Miami. One issue of concern for ATC is the large performance difference with the new generation of personal jet aircraft. Advantages of the parallel route are aircraft separation. They could be used as fast lane/slow lane. The routes will be charted in close proximity to each other.

Effective 1 September 2005, the non-restrictive routing is being expanded to include the 'Expansion' facilities. NRR floor is being lowered from FL390 to FL350. Some minor modifications will be made to existing 'pitch/catch' points to align the aircraft flow from the additional Centers.

Mr. Boetig briefed the participants on the HAR Phase 2 and Phase 3 concepts. HAR Phase 1 was designed to be used with current equipage. HAR Phase 2 concept is designed with some improved equipage on the aircraft and new/supporting equipment on the ground. HAR Phase 3 is designed based on the new automation system. Work has begun on the Phase 2 concepts. These concepts include NRS waypoint resolution; non-restrictive routing; Route spacing based on Required Navigation Performance (RNP) procedural separation; Flight management computer offsets; Standardized stratification; New high altitude sector structures; and Dynamic sectorization (potential Phase 3 concept). In conclusion Mr. Boetig requested customer input into concept exploration and selection.

Mr. Boetig's presentation led to an extensive discussion by the ACF members. Mr. Ted Thompson, Jeppesen, stated that Jeppesen has had problems with the altitude delineations on Q routes that transition across Canadian Airspace. Mr. Thompson stated that Transport Canada did not have certain information pertaining to the lower limits of the altitude constraints on Q routes that transition over parts of Canada. Similar guidance must exist for all Q routes in Canada and the US. Mr. Thompson inquired if all data exchanges are being coordinated with Canada. Mr. Boetig reported that they were unaware of any problem. He agreed to take the issue back to the ARTCCs for resolution.

Mr. Thompson inquired about the possibility of Q routes going below FL180. Mr. Boetig stated that once a Q route goes below FL180 it would become a T route. Mr. Thompson inquired about the NRS waypoint usage. Mr. Boetig responded that this is a new concept and the usage is limited. Mr. Thompson stated that pilot/controller usage needs to be considered prior to bring these concepts down to the low structure. Flight planning, database and charting issues should be considered prior to adding the proposed 1000 new NRS waypoints and the additional Q routes. These decisions will determine if a new chart series is required, how databases are structured, and how data is extracted from the database.

Ms. Valerie Watson, Cartographic Standards, inquired when the NRS waypoints are more commonly used will this eliminate the need for some Q routes. Mr. Boetig responded that was the intent, except in congested areas. Mr. Thompson stated that at a previous ACF the comment was made that there were 500 numbers allocated for Q routes. If 500 numbers were not enough they would allocate additional numbers. The charting industry is trying to prepare for the worst case and determine chart scales and database issues. Mr. Brad Rush, NFPO, requested that consideration be given to the planning of the routes and the number of routes that become effective at any one time. Mr. Eric Secretan, NACO, asked when the ATCAA points are created on the high chart series with the request for charting on the low charts that both charts are evaluated, with graphics. Mr. Moore stated that existing points are not being used. A fix charted on the low chart could be pulled into the high structure. Mr. Rush stated that ATC needs to keep in mind existing route and fix usage when creating new routes and fixes. If existing routes/fixes are not being used, then they should be deleted.

Mr. Moore thanked Mr. Boetig for the update. The ACF will attempt to document the concerns and recommendations discussed during the briefing and submitted them to the appropriate FAA office(s). The High Altitude Redesign presentation is attached to these minutes.

**ACTION:** Mr. Boetig will coordinate the Canada Q route data exchange issue with the associated ARTCCs.

**ACTION:** Mr. Moore will attempt to document the concerns and recommendations discussed and submit them to the HAR Program Office.

## **ATA Charting Committees**

Mr. Ted Thompson, Jeppesen, updated the ACF on the Air Transport Association (ATA) Charting Committees. For over 15 years, the FMS/RNAV Task Force Committee and the Chart and Data Display Committees have discussed, at different times, chart related issues. The FMS/RNAV Task Force Committee looks into FMS and RNAV Procedures and recently began examining RNP issues while the Chart and Data Display Committee focus is on aeronautical charts. The FMS/RNAV Task Force Committee continued to meet four times a year, discussing RNAV issues from a procedure design, operational and avionics perspective.

The group discussed chart related issues as necessary. However, the Chart and Data Display Committee did not meet on a regular basis for over two years. As a result, charting topics began to appear on the agenda of the FMS/RNAV Task Force Committee meetings, which undermined the objective of the Chart and Data Display Committee. Ms. Cathy Abbott and Mr. Bill Vaughn the co-Chairs of the FMS/RNAV Task Force Committee and Mr. Mitch Scott, the Chair of the Chart and Data Display Committee, agreed that the Chart and Data Display Committee would resume its activities in 2005. The Chart and Data Display Committee would take responsibility for reviewing and making recommendations on all chart related issues including all charting topics from the FMS/RNAV Task Force Committee. The Chart and Data Display Committee will become a working group. This working group will meet concurrently with the FMS/RNAV Task Force Committee, which will begin meeting three times a year.

Mr. Thompson concluded his briefing with an invitation to the ACF Members to participate in the Chart and Data Display Working Group. Mr. Moore requested that issues be coordinated with the appropriate FAA Office early on. The next Chart and Data Display Working Group meeting is scheduled for late July.

**ACTION:** Mr. Thompson will report on the ATA Chart and Data Display Working Group recommendations at the next forum.

## **SAE G-10 Electronic Symbology Committee Report**

Mr. Ted Thompson, Jeppesen, updated the ACF on the Society of Automotive Engineers (SAE) G-10 Committee. The SAE G-10 Committee provides a neutral industry/government forum to identify issues and generate recommended design practices and standards that consider the capabilities and limitations of the human operator and the environment in which they work. These recommended standards are used as a basis of design criteria by equipment manufactures and guidance material for certification authorities. Mr. Thompson reported that the last SAE G-10 Committee Meeting was held the first week of May in Montreal, Canada. The SAE G-10 Committee is chaired by Pedro Rivas, ALPA. Mr. Thompson provided a brief summary of the SAE G-10 Committee. Over the last several years, the SAE G-10 Committee has been working on design and operational recommendations concerning human factors issues and criteria for the standardization of electronic charting symbology. The result of this Committee's work has been published in ARP5289 Electronic Aeronautical Symbols.

The Committee is currently working towards developing symbology for electronic chart displays and electronic map displays. The Committee has developed a distinction between the two display types. An electronic map display combines cultural background information and provides aeronautical information in a subset form that can be used for situational awareness. The electronic chart display provides information on the actual procedure, including notes and altitude information. The Committee has been tasked with creating standard symbology for use in both electronic chart displays and electronic map displays and with making recommendations to the FAA. The goal is to design simple intuitive shapes that can be used to represent the basic elements of the electronic charts, i.e., airspace, NAVAIDS, airports. The symbols will be simple, easily displayed and have characteristics that conform to existing symbols in use today. No symbol will have dual meaning. Charting and avionics manufactures will then be able to take these standard basic symbols and customize their products.

The next SAE-10 meeting has been scheduled for August 2005. Mr. John Moore, NACO, stated that the SAE G-10 Committee is open to the aviation public and is currently attended by the air carrier community, avionics manufactures and members of the government. In the past the Department of Defense (DoD) has participated. Mr. Moore encouraged DoD to resume participation in SAE G-10, and explained the importance of pilot participation in the committee. In closing, Mr. Thompson stated that the Committee is not focused on Jeppesen or NACO symbols. The group is looking into ICAO and European symbology as well with the intent of taking into account worldwide symbols.

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

### **RNP Prototype Chart Briefing**

Mr. Tom Schneider, AFS-420, provided a brief history of RNP. The FAA Administrator's Flight Plan outlines the roadmap for a performance based NAS. Part of this roadmap includes RNP. RNP data is currently published on Standard Instrument Departures (SID) and on Standard Terminal Arrivals (STAR). The RNP program has expanded into the Special Aircraft & Aircrew Authorization Required (SAAAR) procedures. Alaska Airlines currently has several non-public SAAAR procedures in effect. There are four additional SAAAR procedures on the drawing board. JetBlue Airways is sponsoring JFK, Continental Airlines is sponsoring Houston, Alaska Airlines is sponsoring Portland, and the FAA is sponsoring Washington National. The FAA is working towards public-use SAAAR procedures. Therefore, some of the procedures currently in work will become public-use SAAAR procedures. SAAAR procedures are developed under FAA Notice 8287. The RNP SAAAR Order used to design and develop the public-use, Part 97 SAAAR procedures will be published within the next several months.

A [prototype for Portland, Oregon, RNAV \(RNP\) Z RWY 28R](#) was distributed for discussion and is attached to these minutes. Mr. Schneider gave a brief overview of the procedure. The procedure name will be RNAV (RNP). If the ground track of the SAAAR procedure is the same as an underlying RNAV (GPS) procedure a letter Z (or Y) will be added to the procedure name, i.e., RNAV (RNP) Z RWY 28R. If the ground track of the SAAAR procedure is not the same as the underlying RNAV (GPS) procedure, Z (or Y) will not be published as part of the procedure name. AFS-410 is currently working on the Advisory Circular that will contain additional information on the SAAAR procedure.

Mr. Schneider explained the RNP planview. Altitude, track and distance will be shown from waypoint to waypoint and a speed limit will be published prior to a Radius-to-Fix (RF) turn. Mr. Schneider stated that the IACC Specifications would need to be modified to include RF turns and speed limits on procedures. The profile view is standard. The Precision Final Approach Fix (PFAF) will be depicted by the lightning bolt symbol. The missed approach speed limit will be shown in the profile view and in the missed approach instructions.

The RNP minima will be shown with the lowest minimum on top and gets progressively higher. Mr. Schneider stated that a database could only contain one RNP value for the final segment. He explained that certain pieces of RNP equipment may not be certified for a RNP 0.15 and may only be certified for RNP 0.3. The asterisk prior to the RNP value refers the user to the notes box on the top of the chart. Mr. Schneider's presentation led to an extensive discussion by the ACF members.

Mr. Mark Ingram, ALPA, inquired as to the necessity of publishing temperature requirements at certain airports. Mr. Brad Rush, NFPO, responded that low and high temperatures would be added to all procedures. Mr. Ingram commented that consideration should be given to developing a protocol for stating procedure temperature limits, such that nonsensical extremes might be screened or eliminated from displays on the chart. Major Yates, NGA, commented that the depiction of the note 'Procedure NA for 'widebody' aircraft' appears to only apply the third asterisk remark. Major Yates recommended moving the remark to the top of the note section. Mr. Ingram voiced his concern to AFS-410 that the implementation Advisory Circular should insist that the ability to meet missed

approach climb gradients be evaluated on an ongoing basis by RNP SAAAR operators. The group discussed textual and graphic depiction standards for RF legs in Instrument Approach Procedures (IAP), Departure Procedures (DP) and STARs.

Mr. Moore recommended that this be a separate issue to be discussed under a separate ACF Recommendation Document. Mr. Mark Steinbicker, AFS-410, will submit a Recommendation Document outlining the RF issues. Mr. Schneider stated that the RNP Group, which consists of NACO, AFS-420, and AVN-100, would meet again in June. Jeppesen and a representative from the Performance Based Aviation Operation Rulemaking Committee (PARC) will be invited to that meeting to discuss the final draft. Any ACF Member who wants to participate in the June meeting should email Mr. Schneider. Mr. Schneider reminded the ACF participants that the goal of the FAA Administrator is to publish public-use SAAAR procedures effective prior to October 1, 2005.

**ACTION:** IACC MPOCs will evaluate the charting specifications and submit a requirement document to modify the IACC charting specifications.

### **ALPA PARC Working Group Lead Perspective on RNP Charting**

Mr. Pedro Rivas, ALPA, was unable to attend the ACF. Mr. Mark Ingram, ALPA, relayed Mr. Rivas's comment that ICAO Annex G states that on radius-to-fix legs, latitude and longitude coordinates will be charted at the beginning and ending points. Mr. Ingram stated that ALPA is not advocating the ICAO recommendation. Mr. Kevin Comstock, ALPA, expressed concern about AFS-410's insistence that any maximum speeds published on the procedures had to be 'ground' speeds, rather than indicated speeds. Mr. Comstock stated that the RNP Charting characteristics will continue to be worked by the PARC, ACF, and internal FAA RNP Charting Working Group in an attempt to have the best possible product produced for the initial public-use RNP SAAAR procedure planned for publication on September 1, 2005, at DCA.

### **NBAA Letter Source for RNP Charting**

Mr. Robert Lamond, NBAA, was unable to attend the ACF. Mr. Lamond sent his regrets and [submitted the following report](#) presented by Mr. John Moore, NACO: "We urge the FAA to form a working group composed of those with the appropriate expertise from NACO, AFS-420, AVN-100, Jeppesen, and the PARC to work the two issues of new source implementation and charting specifications that will be unique to these advanced IAPs. There are a myriad of complex issues of operating capabilities and limitations, database capabilities and limitations, and new cartographical symbology required to make the RNP SAAAR chart most useful to flight crews. NBAA believes a combined industry/FAA/PARC effort is required to achieve the best possible solutions and implementations in a reasonable period of time." Mr. Lamond's entire report is attached to these minutes.

### **Jeppesen RNP Prototype Chart Briefing**

Mr. Ted Thompson, Jeppesen, reported that there were no 8260s available to build the RNP prototype. Jeppesen used the NACO RNP prototype chart to build the Jeppesen chart. The [Jeppesen RNP prototype chart](#) is attached to these minutes. Mr. Thompson stated that the Jeppesen prototype is a combination of their standard briefing strip format and their standard specification for RNAV procedures. In addition, some format examples were borrowed from tailored RNP procedures from airlines around the world. Mr. Thompson advised the group that there are technical errors on the chart since the procedure source was not available during the design of the chart. Mr. Thompson provided a brief overview of the procedure.

The chart uses the standard briefing strip format. The missed approach procedure information was shown followed by notes. The SAAAR procedure note was published as the first note in bold type. Standard type size was used for the remaining notes and temperature data. In the planview the standard SID/STAR style information box was used for the speed limit data. If required, a RF leg information box may be shown on the inside of the RF leg. The box may contain the arc direction and radius information followed by the maximum speed and maximum bank angle. Mr. Thompson stated that the RF leg would not be labeled as an RF leg. The RNP value would not be shown for each track. Fix coordinates will not be published. Arc radii are to the 100th of a nautical mile; along track distance and sector mileage are shown in tenths. Arc radii will not be rounded. NAVAID frequency data and coordinates will not be shown. The format and style of the minima portion differs from the NACO chart. The climb gradient is shown with the RNP minima data.

### Charting Symbology Hierarchy

Mr. Eric Secretan, NACO, updated the ACF on the status of the IACO Working Paper. Mr. Secretan reported that several years ago the RNAV Transition Working Group was formed by the ACF to address RNAV issues. The Working Group looked into the aspects of how to combine RNAV charting with conventional charting. [The Working Group presented](#) numerous recommendations to the ACF including the hierarchy of symbology concept.

Two years ago, the ACF Members concurred with the concept and recommended that the hierarchy of symbology issue be presented to the ICAO Obstacle Clearance Panel (OCP) and the ICAO Operations Panel for consideration. Mr. Secretan stated that it appeared that ICAO would approve the concept. The next step is to draft the change to ICAO Annex 4 and distribute it to countries for comment. The proposed timeline for formal inclusion in Annex 4 should be approximately one year.

Mr. Secretan [provided a brief summary of the hierarchy of symbology concept for the new ACF Members](#). Both conventional equipped aircraft and RNAV equipped aircraft will operate in the same airspace using the same chart series. In order to achieve this we need a way to consistently indicate the difference between RNAV and conventional information. Standard symbology should be used on all charts. For example, if a fix is shown on an Enroute chart as a triangle, it will be shown as a triangle on any chart that it appears. There is a need to indicate to conventional equipped aircraft the fixes, routes, or procedures that they cannot use. Indicating to non-RNAV capable aircraft the fixes they can define with ground-based NAVAIDs provides greater utility and flexibility for ATC. Mr. Secretan stated that there are several aspects tied up in this concept. Currently the triangle indicates a reporting point; the hierarchy concept redefines the triangle to indicate a ground-based intersection. Any charted point can be a reporting point to ATC; a specific symbol is unnecessary. The triangle would be used to indicate navigation function and would no longer be used as purely an air traffic function. If a waypoint, NAVAID, or intersection is a compulsory reporting point for ATC it will be filled-in as shown below.



Flyover points (on a RNAV procedure) will be shown with a circle around the intersection, NAVAID or waypoint as shown below.



Mr. Ted Thompson, Jeppesen, stated that under the hierarchy concept the symbol on the chart depicts what that airspace fix is, not how it is used. For example a NAVAID could be used as a waypoint and a fix could be used as a compulsory reporting point. There are two aspects, what it is, versus how it's used. Mr. Secretan concurred,

stating that the basic symbol indicates the navigation function of that point, not an air traffic function. Filling in the symbol indicates the air traffic function, and the circle indicates the flyover versus flyby function. The shape itself indicates the basic makeup of that fix as a ground-based or a coordinate-based fix. Mr. Secretan reported that NACO has implemented portions of the hierarchy concept.

On RNAV procedures, NAVAIDs are used as waypoints and circles are used around NAVAIDs if they are used as a flyover point. Col. Scott Blum, AF, inquired about database coding procedures for flyover points. Mr. Secretan stated that if the waypoint is a flyover point for procedural reasons, it would be coded as flyover. The Hierarchy Paper and the OCP presentation are attached to these minutes.

**ACTION:** IACC MPOCs will submit a requirement document to modify the IACC charting specifications redefining the triangle.

### **RNAV Holding Pattern Waypoint Symbology**

Mr. Eric Secretan, NACO, reported that pilots and aircraft navigation systems have always treated a holding pattern fix as a flyover fix. A problem arises when a single waypoint is used as both a flyby waypoint and a flyover holding pattern waypoint on the same instrument flight procedure. Only one function, flyover or flyby, can be depicted on the chart for a specific waypoint. Current RNAV specifications state that holding patterns will be shown as a flyover waypoint. To eliminate confusion, the ACF recommended that all holding pattern fixes on RNAV procedures be charted as flyby waypoints unless the fix has an additional flyover requirement separate from the holding pattern. The [Charting of Holding Pattern Waypoints Working Paper](#) presented to the ICAO Obstacle Clearance Panel is attached to these minutes.

### **Public Release of DoD FLIPS and Charts**

Col. Scott Adams, NGA, thanked Mr. Dick Powell and Mr. Terry Laydon for providing NGA the [opportunity discuss the public sale issue](#). Col. Adams stated that NGA's customer is the military. NGA is in existence to provide charts and publications to the Department of Defense (DoD); the public has been piggybacking on this and it is causing issues for NGA. Col. Adams stated that NGA would insure that the needs of aviation are met. NGA has insured the military that they will continue receiving all NGA charts/publication with no interruption in service. The target date printed in the Federal Register for the removal of NGA products from public access is 1 October 2005. NGA will be making a recommendation to their Director in August/September taking into consideration public comments through June. The original focus was to eliminate the entire NGA aeronautical product line.

Col. Adams briefed that there were four rationales published in the Federal Register. First, is to protect the integrity of critical navigation data. The aspects of this issue are to protect NGA's ability to collect data and that the information on the internet is vulnerable. Second, is to avoid copyright and royalty disputes. Col. Adams reported that currently there are two countries that have denied NGA access to digital data because the FAA sells NGA products publicly. Third, is to avoid competition with commercial interest. And last, is to limit access to air facility and navigation data by those with intent to harm. NGA has notified the Office of Military Support, briefed the IACC, and published a public notice in the Federal Register. In addition, NACO sent out notification to their users and AOPA has posted notification on their website.

Col. Adams reported that they have received approximately 500 responses from users. Of these 500 responses only two supported the NGA recommendation and four persons commented about the availability and cost of receiving foreign charts. The educational community responded about the availability of the NavPlan charts and librarians commented about government censorship. Commercial airlines commented that they use the Digital Aeronautical Flight Information File (DAFIF) data for planning purposes. Col. Adams explained that the primary



public issue is for digital data. Users have requested tailored products. NGA could just 'take out' the questionable data. NGA responded that they are not funded to provide the private sector data.

Col. Adams stated that after reviewing the 500 comments there are five significant concerns. Commercial airline were concerned about not having procedure information for the transatlantic alternates: Thuel AB, Keflavik NAS, Lajes and Bermuda NAS. These procedures are currently published in the DoD Flight Information Publication (FLIP) Canada and North Atlantic. The NGA response is that these approaches are available commercially. Col. Adams stated that NGA would provide these procedures to any government agency for publication in their products. NGA will continue to provide the military procedures currently published in the FAA's Terminal Procedure Publications. Source data will be provided to commercial chart producers. Jeppesen will continue to receive source data. Civil Reserve Air Fleet (CRAF) and commercial contract air carriers need continued access to FLIP and DAFIF. NGA response is that the reserve aircraft are operating for the United States Government. As such, they will be provided access to data. Approximately 20% of the people are interested in the NavPlan charts. The majority of these concerns are from universities who use these low cost, worldwide charts for educational purposes. NGA response is that these charts will be available to educational institutions. In addition, other NGA products will be available to the public for educational purposes such as the Space Shuttle Radar Data that provides altitude data over the world.

Digital data is the main concern. Commercial software developers have based nav/flight plan/weather application on DAFIF. Col. Adams stated that the data over the US is not NGA data, but FAA data. NGA takes the FAA data and pulls it into DAFIF. NGA is willing to provide this process back to the FAA in order for the FAA to become the worldwide distributor of data. Mr. Tom Schneider, AFS-420, stated that it is not the intent of FAA/NACO to takeover international data on the same level as DoD. Mr. Terry Laydon, NACO, concurred. Col. Adams stated that there has been limited response from the airline industry. Letters will be sent to the airlines and government agencies requesting comments. An independent contractor will review the NGA data and provide an independent recommendation. The timeline of removal from public sale remains in question. NGA will brief any interested pilot or aviation organizations.

In conclusion, Col. Adams stated that no product would be removed from public sale without the information being available through some other means. NGA will not jeopardize safety of flight. Mr. Hal Becker, AOPA, inquired how general aviation is being notified. Col. Adams reiterated that a public notice was published in the Federal Register, FAA sent notices to chart users and NGA spoke to Ms. Heidi Williams, AOPA, offering to provide a briefing at any pilot forum. The same offer was made to the FAA. Mr. Kevin Comstock, ALPA, stated that ALPA is aware of the NGA recommendation and they will submit an objection based on safety of flight.

Mr. Laydon thanked Col. Adams for briefing the ACF. Mr. Laydon asked about old DMA policy that states the organization will deliver its data to the aviation community unless a bilateral partner opposes, then that piece is to be extracted and not made available to the public. Mr. Laydon inquired if this policy still exists. If so, why not pull the data for the two countries that object. Col. Adams responded that instead of taking the data out, they would like to put the data in the right format, with the right agreements. NGA feels that taking data out of DAFIF would not provide a very useful product to the aviation community. NGA has questioned their legal office to determine the legality of the old agreements. Mr. Laydon stated that he is pleased that NGA is taking a serious in-depth look at the issue and the comments. The Flight Information Publications Removal from Public Sale presentation is attached to these minutes.

## V. Outstanding Issues

### 00-01-119 Raising Nationwide Charting Standards (PCNs)

Mr. Dave Goehler, Jeppesen, reported that Allan Ball, Executive Jet Aviation, first submitted the issue to the ACF in 2000. Mr. Goehler stated that approximately two years ago an ad hoc group called the Airport Source Data Committee was formed to study the airport sketch 5010 source data issue. Mr. Goehler co-chairs the Airport Source Data Committee with Mr. Ben Castellano, Airport Safety. A subcommittee of the Airport Source Data Committee was formed to resolve the Pavement Classification Number (PCN) data issues. This subcommittee includes participants from NACO, NFDC, Jeppesen, Boeing, NetJets, HAI, AFFSA, ALPA and Delta Air Lines. Mr. Goehler provided an official PCN definition and description and explained the PCN/ACN (Aircraft Classification Number) relationship.

The goals of the PCN subcommittee are to document and forward industry requirements, concerns, and ideas; monitor FAA commitments to collect, database and distribute PCN data; and recommend ways to publish, portray and display PCN data. Mr. Goehler reported that the FAA has necessary funding to collect PCN data for runways. PCN data for taxiways and aprons has not been reported. Mr. Dick Powell, Aeronautical Information Services, has committed to populate the National Airspace System Resource (NASR) database with the PCN data when the information is received. State and Federal Airport Inspectors will begin collecting PCN data this spring. Mr. Goehler requested that anyone wishing to join the subcommittee should contact Mr. Ball.

Ms Valerie Watson, Cartographic Standards questioned if the PCN values will replace the weight bearing data currently published on the airport diagrams and in the A/FD. Mr. Goehler responded that this was yet to be determined; industry requirements have not been defined. Ms. Watson inquired if the airport inspector's were collecting weight bearing data and PCN data. Mr. Goehler was unsure. [The PCN briefing is attached](#) to these minutes.

#### **STATUS: OPEN**

**ACTION:** Ms. Watson will check with Ben Castellano to verify if the airport inspectors are collecting both weight bearing data and PCN data.

**ACTION:** Mr. Dave Goehler will report on the Airport Source Data Committee recommendations at the next forum.

### 02-02-148 Obstacles not in Public Data

Mr. Eric Secretan, NACO, provided a brief update on the Obstruction Repository System (ORS) and the Digital Obstacle File (DOF). Mr. Secretan reported that ALPA identified several controlling obstacles, under 200 feet, which were not included in the DOF. The DOF was originally designed to support NACO charting, and most obstacles under 200 feet are not charted. The two obstructions identified by ALPA at Lihue Hawaii were added to the DOF.

NACO is in the process of developing a comprehensive database that will include all natural and man-made obstructions, as well as digital terrain. The ORS database will include obstacles that are used for charting, obstacles used for procedure design, and Obstruction Evaluation / Airport Airspace Analysis (OE/AAA). The ORS system is still being structured and will need to go through population and verification stages. Full implementation of ORS is several years down the road. Ms. Rosemarie Longobardo, NACO, stated that many of the obstacles that are on airports are processed as non-rule and never get a 7460 issued. This is most likely what happened at Lihue Hawaii.

Mr. Bill Hammett, AFS-420, questioned if all obstructions on the OC chart were added to the DOF. Ms. Longobardo responded that only those obstructions that are known to penetrate the FAR Part 77 obstruction plane are added. Mr. Hammett stressed the importance of this information for procedure design. Mr. Secretan reiterated that the intent of ORS is to incorporate all obstacle data. OE/AAA will provide ORS with the bulk of the obstacle data. However, OE/AAA requires NACO verification of these obstructions along with the assigned NACO number and accuracy code.

Mr. Brad Rush, NFPO, stated that AVN has taken upon itself to create ORS. This database will include all obstacle sources, including digital terrain, digital elevation models, obstacles, and all OE/AAA. Mr. Rush stated that AVN is not receiving the necessary information from Air Traffic. Air Traffic approves the OE 7460, the tower is built and NACO never receives the information. Mr. Rush questioned why NACO is reporting on the OE/AAA issue. OE/AAA is an Air Traffic program and Mr. Kevin Haggerty, ATO-R, should provide the update at the next ACF. In conclusion, Mr. Secretan suggested that the ACF Members provide recommendations on what data should be included in the ORS.

**STATUS: OPEN**

**ACTION:** ACF to provide recommendations on what will be included in the ORS.

**ACTION:** Mr. Haggerty will provide an OE/AAA update at the next ACF.

### 03-01-151 Charting of IFR Transition Routes

Mr. Paul Ewing, ATP, provided a brief update on the status of the IFR Transition Routes (RITTR). Mr. Ewing stated that the goal is to have the RITTR at Charlotte, NC published on the enroute low charts by 1 September 2005. The target date for publishing Jacksonville, FL and Cincinnati, OH is December 2005. The Notice of proposed rulemaking (NPRM) for Charlotte and Jacksonville will be issued shortly.

Currently the transition route graphic and the expect altitudes are published in the Preferred IFR Routes section of the A/FD. The expect altitudes will not be published on the title panel of the enroute low chart as originally planned. The pilot will request an altitude on his/her flight plan. ATC will approve the altitude or assign a different altitude. The routes will be charted on the enroute low charts in blue type and will be GNSS only. They will carry a T airway designator and airway numbers will be assigned from T200 to T500. The GNSS minimum enroute altitude (MEA) will be established for each segment of the RITTR. Mr. Ewing requested AOPA and any other user group interested in Transition Routes to provide input on the next transition route location. Mr. Tom Schneider, FAA/AFS-420, stated that the interim guidance for establishing RITTRs is on the AFS-420 website:

<http://av-info.faa.gov/terps/Policy%20Memo%20Folder/RITTR%20Guidance.pdf>.

**STATUS: OPEN**

**ACTION:** The IACC MPOCs will evaluate the charting specifications and submit a requirement document to modify the IACC charting specifications.

**ACTION:** NACO will send out a Charting Notice to its users and provide a copy to Mr. Thompson.

**ACTION:** Mr. Ewing will provide an update at the next ACF.

### 03-01-153 Depicting LAHSO Hold Short Lights and Hold Short Points

Mr. Dick Powell, Aeronautical Information Services, stated the Terminal Services Office has provided an official Land and Hold Short (LAHSO) requirement. This requirement will add LAHSO hold short point data on the Airport Diagrams. The hold short lights are not included in this requirement. Mr. Powell stated that the draft RD has been written adding the recommended symbology and text to the airport diagram specifications.

**STATUS: OPEN**

**ACTION:** Ms. Valerie Watson, Cartographic Standards, will submit a requirement document to modify the IACC charting specifications. MPOC will report on the IACC response at the next ACF.

### 03-01-154 Charting of RNAV legs adjacent to Fly-Over and Fly-By Waypoints

Mr. Mark Steinbicker, AFS-410, stated that at the 04-02 Aeronautical Charting Forum consensus was reached to eliminate the fly-by issue and concentrate on the fly-over issue. Mr. Eric Secretan, NACO, provided a brief background on the track types. Mr. Secretan stated that the track types came out of a meeting over three years ago in Oklahoma City. Mr. Carl Moore, AFS-420, originally submitted this issue. Mr. Secretan explained the four track types:

Heading – no waypoints shown, ‘hdg’ charted after degrees (i.e., 330 degree hdg), no mileage shown.

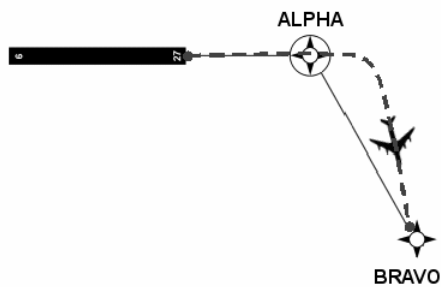
Direct – waypoint at termination of leg, no course shown, no mileage shown.

Course – waypoint at termination of leg, course shown, mileage shown only if first leg upon departure.

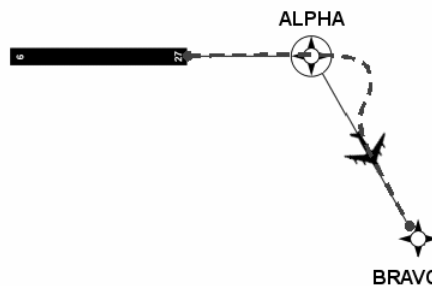
Track – waypoints at beginning and termination of leg, course shown, mileage shown.

NACO provide prototypes depicting the four track types. [The Portland Intl KELYY ONE Departure prototype](#) is attached to these minutes. Mr. John Moore, NACO, explained the prototype to the ACF participants. Mr. Secretan stated the basic idea is to only provide appropriate information for the leg. Mr. Secretan acknowledged that this does not address the fly-over/fly-by issue.

Mr. Steinbicker apologized for not providing the revised recommendation document eliminating the fly-by issue. Mr. Secretan stated that the IACC disagreed with the depiction of the stylized fly-over and comeback type track. However NACO and Jeppesen currently depict this on some charts. Mr. Steinbicker stated that procedure designs are using less and less fly-over waypoints on departures and arrivals. However there are still recognition problems with the fly-over waypoints. The circle around the fly-over points helps with the recognition problem but some type of track depiction going beyond the point would benefit the pilot. Mr. Secretan stated that was the consensus from the last ACF. Fly-by will be shown point-to-point and the fly-over will be a stylized depiction. Mr. Steinbicker stated that currently the chart does not depict what the aircraft will do. The charted paths should be clear, concise, and intuitive as to what the pilot can expect regarding the aircraft flight path as shown in the sample below.



Fly-Over Waypoint Alpha followed by to-Fix Leg to Fly-By Waypoint Bravo



Fly-Over Waypoint Alpha followed by Direct-Track-to-Fix Leg to Fly-By Waypoint Bravo

**STATUS: OPEN**

**ACTION:** NACO will submit a revised recommendation document eliminating the fly-by issue and depicting the fly-over waypoint as a stylized line on all procedures.

**04-01-158 Depiction of takeoff minimum on Standard Instrument Departures and those associated with Obstacle Departure Procedures**

Mr. Chuck Schramek, Delta Airlines, stated that the graphic departure includes takeoff minimums and climb gradient for route segments. These same airports also have takeoff minimums listed on the back of the airport page, which may not agree or apply to the departure procedure. These minimums and gradients are being depicted in various formats and in several places. This inconsistency makes it difficult for pilots and operators to quickly determine the appropriate takeoff minimums to apply.

Currently the FAA only charts minimums on SIDs and ODPs as low as specified in FAR Part 97 'Standard'. For US FAR Part 121 and 135 Air Carriers, pilots must refer to the Jeppesen Airport Chart to determine their 'Lower than Standard' take-off minimums that apply. Mr. Schramek explained that from a FAA standpoint they only chart standard takeoff minimums or a climb gradient if it not standard. Mr. Schramek stated that Jeppesen has attempted to chart Air Carrier Ops Specs at the request of their airline customers, only to be challenged and chastised for occasional misinterpretations of the Ops Specs due to the ambiguity in the documentation.

Mr. Schramek is requesting that the FAA publish on the 8260 SID/ODP source document and on applicable SID and ODP charts the lowest applicable takeoff minimum based on air carrier operations for that runway. Mr. Vincent Chirasello, AFS-410, expressed his concerns about the Part 91 pilots and those users without operation specifications. Col. Blum, AF, stated that this is a major issue for the military. Col. Blum recommended leaving the 'or standard' and add another column. ACF consensus is to continue this issue outside the forum. Mr. Mark Steinbicker, AFS-410, will lead this committee.

**STATUS: OPEN**

**ACTION:** Mr. Mark Steinbicker will notify AFS-420, AFS-200, AVN-100, NACO, and Mr. Schramek of the date and time of the telecon.

**ACTION:** Mr. Steinbicker will provide an update at the next ACF.

#### 04-01-159 RNAV Idents

Mr. Brad Rush, NFPO, stated that at the 04-02 Aeronautical Chart Forum Mr. John Ingram, NGA, requested access to the FTP site to obtain the 8260-2. NGA needed the 8260-2 to update DAFIF. Mr. Rush reported that the 8260-2 is currently available through the AVN coordination website. In approximately two years the 8260s will be available to the public on the web.

**STATUS: CLOSED**

#### 04-01-160 Charting Low Altitude Q Routes

Mr. Paul Ewing, ATP, provided the following update. Mr. Ewing stated there has been an understanding in Air Traffic and the ACF that high and low RNAV routes would be designated as Q routes. IFR Transition Routes would have T designators. Alaska has developed as part of the Capstone Project approximately 33 low altitude RNAV routes using the T designator. AFS, AVN, NACO and Air Traffic made a recommendation to designate the Alaska routes in the final rule, changing them from the T designator to a Q designator.

The second recommendation from the group was to open and establish a working group to study how to designate low altitude RNAV routes in the future. Mr. Ewing opened the issue for ACF discussion. Ms. Edie Parish, ATO-R Airspace and Rules, stated that within Air Traffic Airspace and Rules the discussion was made that the T route designator would be used for all low altitude RNAV routes and that the Q route designator would be used for RNAV routes in the high structure.

Mr. Ewing stated that the intent has always been the Q designator would be used for all RNAV routes in the high and low structure and the T designator would only be used for transition routes. This was agreed upon at the AISWG and the ACF. Mr. Ewing questioned if the T designator could be changed in the final rule. Ms. Parish responded that there is an Administrator's Flight Plan goal relating to the Capstone routes in Alaska; and according to Legal, attempting to change the T designator to a Q designator puts the routes in jeopardy.

Mr. Tom Schneider, AFS-420 questioned why changing the route designator is an issue for legal. Ms. Parish responded that according to Legal, changing the route designator is more than an editorial change. Because of problems in the development of the routes Legal did allow changes to the description of several routes and several routes were withdrawn. Mr. Mike Riley, NGA, inquired if low altitude Q routes were currently published in Alaska. Mr. Ewing responded that there are currently no low altitude Q routes in Alaska. Ms. Parish stated that part of the problem is that there seemed to be a disconnect between the ACF and Air Traffic Airspace and Rules. The philosophy of Airspace and Rules is that these routes are area navigation routes. The low altitude area navigation routes will have a T designator and the high altitude route will have a Q designator.

Mr. Mark Steinbicker, AFS-410, questioned if using the T designator in Alaska is setting the standard for future routes. Mr. Ewing stated no and that if desired these routes could possibly be changed in the future. ICAO allocated route prefixes T, Q, Y, and Z to the US for designation of domestic RNAV routes. Mr. John Moore, NACO, recommended that a subcommittee be formed to discuss the issue and potential problems. These problems include, but are not limited to, equipage requirements for Class B/C RITTR routes designated as T routes, RNAV Low Altitude T routes elsewhere in the Contiguous US, and RNAV Low Altitude T routes in Alaska. The following individuals/organizations have expressed an interest in participating on the working group.

**CHARTING RNAV LOW ALTITUDE ROUTES ACF SUB WORK GROUP**

<b>NAME</b>	<b>ORG</b>	<b>EMAIL</b>	<b>PHONE</b>
Paul Ewing	AMTI/RNP Division	<a href="mailto:paul.ctr.ewing@faa.gov">paul.ctr.ewing@faa.gov</a>	850 678-1060
John Ingram	NGA/PVAA	<a href="mailto:ingramjr@nga.mil">ingramjr@nga.mil</a>	314 263-4806
Valerie Watson	ATO-R/AIS	<a href="mailto:valerie.watson@faa.gov">valerie.watson@faa.gov</a>	202 267-9302
Paul Gallant	ATO-R/Airspace & Rules	<a href="mailto:paul.gallant@faa.gov">paul.gallant@faa.gov</a>	202 267-9361
Ken McElroy	ATO-R/Airspace & Rules	<a href="mailto:ken.mcelroy@faa.gov">ken.mcelroy@faa.gov</a>	202 267-7686
John Moore	NACO	<a href="mailto:john.a.moore@faa.gov">john.a.moore@faa.gov</a>	301 713-2631
Mike Riley	NGA/OMS	<a href="mailto:rileym@nga.mil">rileym@nga.mil</a>	703 264-3003
Monique Yates	NGA/OMS	<a href="mailto:yatesm@nga.mil">yatesm@nga.mil</a>	703 264-3003
Brad Rush	NFPO	<a href="mailto:brad.w.rush@faa.gov">brad.w.rush@faa.gov</a>	405 954-3027
Mark Steinbicker	AFS-410	<a href="mailto:mark.steinbicker@faa.gov">mark.steinbicker@faa.gov</a>	202 385-4613
Bill Hammett	AFS-420/ISI	<a href="mailto:isiconn@comcast.net">isiconn@comcast.net</a>	860 399-9407
Thomas E. Schneider	AFS-420	<a href="mailto:thomas.e.schneider@faa.gov">thomas.e.schneider@faa.gov</a>	405 954-5852
Kevin Comstock	ALPA	<a href="mailto:kevin.comstock@alpa.org">kevin.comstock@alpa.org</a>	703 689-4176
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*Ted Thompson	Jeppesen	<a href="mailto:ted.thompson@jeppesen.com">ted.thompson@jeppesen.com</a>	303 328-4456

*\* To receive minutes but not a participant*

**ACTION:** Mr. Ewing will notify interested participants of the date and time of the Charting RNAV Low Altitude Routes Sub Working Group meeting.

**ACTION:** Mr. Ewing will provide an update at the next ACF.

**[04-01-166 Charting of RNAV SIDs, STARs and QRoutes](#)**

Mr. Mark Steinbicker, AFS-410, reported that Advisory Circular (AC) 90-100, US Terminal and Enroute Area Navigation (RNAV) Operations has been completed. The AC was signed in January 2005 with an effective date of September 1, 2005. The AC identifies RNAV SID and STAR procedures as either Type A or Type B based on aircraft navigation equipment requirements, procedure and route development criteria, and flight crew procedures. The existing equipment code notes on approximately 190 RNAV DP and 22 RNAV STAR procedures are therefore invalid. The RNAV SID and STAR procedures will be updated with a replacement note referencing Type A or Type B. The Terminal Procedure Publication (TPP) legend will be modified detailing the requirement of the Type A and Type B note. Type B procedures require a higher level of aircraft and operator performance than Type A procedures. Those aircraft and operators capable of flying Type B procedures may also fly Type A procedures.

Most procedures will be identified as Type B procedures. Mr. Steinbicker stated that additional equipment suffixes: J, K, and L would be effective in August. AIM guidance will be effective September 1, 2005. FAA Order 8260.46, Departure Procedure (DP) Program and FAAO 8260.44, Civil Utilization of Area Navigation (RNAV) Departure Procedures and the AIM are in the process of being reworked. FAA Order 7100.9, Standard Terminal Arrival Program and Procedures, will not make the September effective date.

Mr. Steinbicker provided a detailed explanation of the proposed changes to be incorporated into the TPP Legend. Mr. Vincent Chirasello, AFS-410, reiterated that under the Type B procedures' charted note 'Pilots of RNP-capable aircraft, use RNP 1.0' (or 2.0, as applicable), the RNP number would be either 1.0 or 2.0 depending on the procedure and both numbers will not be shown. Mr. Kevin Comstock, ALPA, stated that ALPA submitted an additional note for the Type A and Type B procedures that included engage altitude. Mr. Steinbicker responded that the term 'engage' would not be used in the description. Mr. Steinbicker will coordinate the proposed changes with the PARC and make any additional changes to the requirement document prior to the

next MPOC meeting on May 26, 2005. ACF Members express concern about the amount of information being added to the legend.

Note: Mr. Brad Rush, NFPO, will provide the National Flight Data Center (NFDC) official source to amend the procedures on or about June 1, 2005. The official source will not be the normal 8260. The changes will be provided via an Excel spreadsheet as an add-on page to the National Flight Data Digest (NFDD).

**STATUS: OPEN**

**ACTION:** Mr. Steinbicker will provide an update at the next ACF.

**ACTION:** Jeppesen will send out a Chart Bulletin to its users.

**ACTION:** NACO will send out a Chart Notice to its users.

#### **04-01-167 Charting of Altitude Constraints on SIDs and STARs**

Mr. Mark Steinbicker, AFS-410, stated that at the 04-02 Aeronautical Chart Forum a recommendation was made to establish a standard charting format for altitude constraints. Mr. Eric Secretan, NACO, stated that ICAO Annex 4 is being changed to use over and underlines for minimum, maximum, mandatory and recommended altitudes on SIDs and STARs. The intent is to standardize the charting format. NACO provided a draft requirement document and the proposed TPP, STAR and DP Legend changes for ACF discussion. [The TPP Legend page](#) is attached to these minutes.

Mr. Tom Schneider, AFS-420, questioned if the proposed changes apply to all procedure types. Mr. Eric Secretan, NACO, responded that the proposed changes are only for the STAR and DP procedures. ACF Members concurred that the RD should be modified to include IAPs. Mr. Steinbicker recommended the following changes to the legend page. Change the altitude example to include an example of flight level. Change the mandatory altitude example to a block altitude example. Change the title AIRSPEED to read INDICATED AIRSPEED (IAS). Mr. Ted Thompson, Jeppesen, stated that approximately ten years ago Jeppesen standardized the depiction of speed and altitude. Jeppesen uses a text description for MIN, MAX, and MANDATORY.

**STATUS: OPEN**

**ACTION:** Ms. Debbie Copeland, NACO, will modify the requirement document to include IAPs and modify the TPP Legend. The MPOCs will report on the IACC response at the next ACF.

#### **04-01-168 Identifiers for Heliports and Helipads**

Mr. Dick Powell, Aeronautical Information Services, reported that this issue was presented to the ACF last year and considerable work has been completed. Numerous heliports and helipads have no FAA identifiers and latitude/longitude information for most of these sites is non-existent. Without unique identifiers, and without latitude/longitude data, these sites cannot be included in NASR or navigation databases. In order to include IFR helicopter approach procedures in navigation databases, the procedure must be coded to the location identifier with valid coordinates.

Mr. Powell reported that Flight Standards, Airports, NOTAM Office, and the Helicopter Community propose that a unique identifier be reserved for heliports prior to the heliport establishing a procedure. The identifier would



be placed into NASR as reserved and published as a reserved identifier in FAA Order 7350.7. The reserve status would be deleted once the approach was operational. With a unique identifier the heliport could be added into the NOTAM system. Mr. Powell stated that the existing specials without identifiers will be assigned a reserved identifier and entered into NASR. Mr. Powell reported that AFS-420, HAI and NGA provided a list of heliports with specials. The listings were consolidated and submitted to the Office of Airport Safety requesting the associated heliport data. Mr. Powell requested and received ACF consensus on the reserve identifier proposal.

**STATUS: OPEN**

**ACTION:** Mr. Powell will provide an update at the next ACF.

#### [04-02-169 Location of PRM monitor frequency on NACO charts for ILS PRM and LDA PRM Approaches](#)

Mr. Tom Schneider, AFS-420, stated that at the last ACF a recommendation was made to revise the TERPS policy to require that only the PRM frequency applicable to each charted approach be published. In addition, standardize the location of the PRM frequency by placing the frequency in the tower frequency box. Mr. Schneider stated that the policy guidance has been prepared. The PRM charting requirements from the TERPS manual have been added to FAA Order 8260.19, Flight Procedures and Airspace. Frequency data will be deleted from the 8260 forms. This will allow for frequency changes without going through the regulatory process. Mr. Schneider stated that these changes would be incorporated into the next edition of FAA Order 8260.19.

**STATUS: OPEN**

**ACTION:** Ms. Debbie Copeland, NACO, will evaluate the charting specifications and, if required, submit a requirement document to modify the IACC charting specifications. The MPOCs will report on the IACC response at the next ACF.

#### [04-02-170 Idents and Coordinates for Parachute Jump Areas](#)

Mr. Eric Secretan, NACO, provided the following briefing. The ACF determined that there is an increasing demand for parachute jump area (PJA) data in Aircraft Electronic Display and Navigation Systems. At the 04-02 Aeronautical Charting Forum, the Parachute Jumping Area Working Group (PJAWG) was established to identify the requirements and develop a proposal for ACF consideration.

The PJAWG met in March 2005. The PJAWG determined that in order for aircraft electronic display and navigation systems to provide jump area information to pilots, the current method of describing jump area locations by bearing and distance needed to be supplemented with jump area coordinates and identifiers.

The PJAWG recommended that a seven character unique identifier be used to describe each PJA to allow it to be included in flight databases. The first two letters would be PJ followed by a two letter State or Province Code followed by three digits. For example, the identifier PJMD001 would represent a parachute jump area in Maryland. A similar naming convention was discussed for Glider Areas, Hang Glider Areas, and UltraLight Areas. The proposed prefix identifiers would be GL, HG and UL respectively, followed by a State/Province Code and three digits. (i.e. GLMD001, HGMD001 and ULMD001). The following data elements were determined to be necessary fields in the data record.

- Unique identifier
- PJA Name

- Geographic position
- State
- Controlling Agency – ATC Facility
- Frequencies
- Times of use
- Associated airport (if any)
- Civil or Military Use
- Jump Altitude (Normal Maximum)
- Jump Volume
- Remarks
- Charted on sectional (Y or N)

These data elements were compared to the elements currently listed in the NASR database to ascertain what new data would need to be collected and what new fields would need to be added to NASR. Mr. George Sempeles, Cartographic Standards, stated that NASR would be modified within a year to include unique identifiers, geographic position, civil or military use and jump volume.

Mr. Dick Powell, Aeronautical Information Services, stated that the additional fields would be available in the NASR subscriber file. Mr. Greg Yamamoto, NACO, has submitted the recommendations to ARINC for approval. The layout record for ARINC-424 will be included in version 19. Mr. Secretan stated that NACO would provide the information once it is collected as a standalone database as part of NACO’s Digital Aeronautical Information CD. Mr. James Spencer, NAVFIG, questioned if the PJA would be shown on Instrument Approach Procedure charts. Mr. Secretan responded that PJA on IAP issue was submitted as a separate item to the ACF several years ago and the ACF nonconcurred.

**STATUS: OPEN**

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

**ACTION:** PJAWG to discuss the criteria for indicating if a jump area is on or near a procedure.

**[04-02-171 Class D Airspace Without an Associated Control Tower.](#)**

Mr. Dick Powell, Aeronautical Information Services, stated official guidance was issued to the Regional Offices to insure that tower frequencies and operating hours would be published for the same effective date as the Class D. Mr. Eric Secretan, NACO, stated that currently there are no instances of Class D airspace being created without the establishment of an associated control tower.

**STATUS: CLOSED**

## VI. New Charting Topics

### [05-01-173 ASR Symbol on Visual Charts](#)

Mr. Eric Secretan, NACO, submitted this issue. Mr. Secretan stated that in 1982 the National Transportation Safety Board (NTSB) issued Safety Recommendation A-82-114, which stated, "Add to all federal sectional aeronautical charts a prominent advisory notation pertinent to terminal areas at which radar traffic advisory service are available on request."

In 1990, the IACC approved a requirement document establishing the requirement to indicate radar using the negative type R in a circle, immediately prior to and on the same line as the airport name in the airport data block at airports with FAA operated ASRs that do not lie within the charted lateral limits of Class B, Class C or TRSAs. In 2003, the IACC approved Requirement Document 556, which expanded the requirement to include airports inside the lateral limits of Class B, Class C, and TRSAs. The source data to chart and maintain the ASR symbol is limited and application of the symbology is subject to interpretation of unclear guidance and original NTSB intent.

Currently, the ASR symbol is added to the airport data block of the closest airport to the antenna site. Mr. Secretan questioned if charting the physical location of an antenna site at an airport provides any useful information to the pilot. When queried, most pilots could not provide an explanation as to the purpose of the ASR symbol on the visual chart. Pilots have commented that the usefulness of an ASR symbol is extremely limited, even ambiguous.

The original NTSB request was made over 22 years ago. The availability of flight following and traffic advisory service within the United States calls into question the continued application of this requirement.

Recommendation was made to obtain ACF concurrence to delete the ASR symbol on Visual charts and forward this ACF recommendation to the NTSB for review of Safety Recommendation A-82-114 to determine the validity of the requirement. Col. Scott Adams, NGA, stated that there are still places out west where flight following is not available. Mr. Hal Becker, AOPA, stated that they would poll their members to determine if this information is required and determine if there is a better way to depict the information. Mr. Secretan stated the ASR symbol needs to be clearly defined.

**STATUS: OPEN**

**ACTION:** Mr. Secretan will provide an update at the next ACF.

**ACTION:** AOPA will poll members and report at the next ACF.

**ACTION:** NACO will determine the criteria for charting the ASR symbol.

### [05-01-174 Top Altitude Note on Standard Instrument Departures \(SIDs\)](#)

Mr. Don Porter, ATO-R/RNP, submitted this issue. Mr. Mark Steinbicker, AFS-410, briefed the ACF. The Pilot/Controller Procedures and Phraseology (P/CPP) Working Group has been developing procedures and phraseology for 'Climb via' for SIDs that is very consistent with 'Descend via' for STARs. The process involves Human Factors evaluation and simulation through pilot questionnaires and flight simulator scenarios.

SIDs/RNAV SIDs with a vertical profile contains altitude instructions textually in the narrative and on the graphic chart. The narrative also contains the 'top altitude' of the procedure, e.g., 'maintain FL190, expect final

requested altitude 10 minutes after... .' in this example, the top altitude is FL190. The graphic depiction does not contain this information and this has proved problematic in Human Factors simulations while developing 'Climb via'.

The problem surfaces when ATC has to interrupt a SID, i.e., vectoring an aircraft off the route, or inserting an interim altitude; then returns the aircraft to pilot navigation using the clearance 'Climb via'. If the pilot has changed the altitude in their auto flight system, or otherwise removed any reference of the top altitude because ATC gave a 'maintain' instruction, he/she has no quick reference to resume the proper 'top altitude' without referring back (digging) into the narrative. The P/PPP recommends the development of a standard method of depicting the ATC 'Top Altitude' on a SID graphic chart.

Mr. Steinbicker provided a detailed explanation of the [LAS SHEAD Three Departure](#), which is attached to these minutes. Mr. Steinbicker's briefing resulted in extensive ACF discussions; brief highlights of these comments follow. Mr. Steinbicker stated that there is a concern about using the word 'maintain' too many times in the clearance and route description. There is some interpretation that use of the word, maintain, deletes all the vertical restrictions.

Mr. Ted Thompson, Jeppesen, stated that Jeppesen uses a matrix format to depict the information in a text form within columns. At one time Jeppesen published altitudes all over the planview. Mr. Tom Schneider, AFS-420, stated that the climb via term has been eliminated from the examples in FAA Order 8260.46C. Mr. Mark Ingram, ALPA, stated for the record that ALPA supports the recommendation. Mr. Thompson stated the 'Top Altitude' needs to be clearly identified on the source. Jeppesen and NACO agreed that a box note could be added to the chart provided the information was clearly specified as 'chart note' on the 8260.

Mr. John Moore, NACO, stated that from a charting aspect, specifications exist to chart the note. Mr. Schneider recommended that the following statement be added to the FAAO 8260.46C, "Do not specify an altitude higher than the final maintain altitude described in the text." Mr. Moore recommended that the issue be tabled pending additional input from Mr. Porter.

**STATUS: TABLED**

#### **[05-01-175 Adding VFR Flyway Planning Charts to the SRAC](#)**

Ms. Heidi Williams, AOPA, submitted this issue. The Sectional and Terminal Raster Aeronautical Charts (SRAC) DVD produced by NACO includes scanned images of FAA Sectional and Terminal Area charts. The DVD does not include the VFR Flyway Planning Charts or the Grand Canyon VFR Aeronautical Chart. These planning charts provide pilots with essential safety information that include recommended VFR flyways to avoid Class B Airspace and depictions of special rules and procedures. The recommendation is to add the VFR Flyway Planning Charts and the Grand Canyon VFR Aeronautical Chart to the SRAC.

**STATUS: OPEN**

**ACTION:** NACO will provide an update at the next ACF.

## 05-01-176 Charting of Radius to Fix (RF) Leg/Path Terminators

Mr. Mark Steinbicker, AFS-410 submitted this issue. Mr. Steinbicker reported pilot recognition of RF legs and any associated requirements is important for procedure compliance. RNP SAAAR IAPs will regularly incorporate RF legs. In the future, design criteria for DPs and STARs may also include RF legs. Recommendation is to establish a textual and graphic depiction standard for RF legs in IAPs, DPs, and STARs. The standard should promote awareness of the presence of an RF leg as well as allow for adequate pilot crosscheck of procedure information and aircraft performance limitations. The portrayal and/or text might communicate the following information:

- The presence of an RF leg
- The radius of the RF leg
- The length of the RF leg
- The direction of turn (R/L-Arc)
- The center point of the radius
- Speed limitations associated with the RF leg (Groundspeed vs. KIAS)
- Maximum bank angle
- Depiction of entry/exit waypoints as flyby
- Resolution of distances/degrees

**ACTION:** Mr. Steinbicker will establish the RNAV RNP working group to resolve the issue.

**ACTION:** Mr. Steinbicker will provide an update at the next ACF.

## VII. Closing Remarks

Mr. John Moore, NACO, thanked Mr. Dick Neher and Ms. Debbie Copeland for coordinating the ACF. Mr. Terry Laydon, NACO, gave a special thanks to Ms. Valerie Watson and Mr. George Sempeles for helping with the transition to NACO for the charting portion of the forum along with thanks to John and Debbie for accepting the task.

## VIII. Next Meeting

The next meeting of the ACF is scheduled for October 25-27, 2005, and will be hosted by the Air Line Pilots Association, at their facility in Herndon, Virginia. Dress will be casual. The following meeting will be held at AMTI in Arlington, Virginia April 25-27, 2006.

**Please note the attached Office of Primary Responsibility (OPR) listing for action items. It is requested that all OPRs provide the Chair, John Moore, (with an information copy to Debbie Copeland) a written status update on open issues no later than October 7, 2005. A reminder notice will be provided.**

## IX. Attachments

1. Attendees/Mailing List

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