Government/Industry Aeronautical Charting Forum (ACF) 97-01 April 7-10, 1997

1. Opening Remarks

The forum was held at the Office of Aeronautical Charting and Cartography (AC&C) in Silver Spring, MD. Mr. Paul Best, FAA/AFS-420, chaired the Instrument Procedures portion of the Charting Forum on April 7 & 8, 1997. Separate minutes of that meeting have been generated and will be sent to those participants.

Mr. Dick Powell, FAA/ATA-100, Co-Chair of the ACF, opened the Charting Forum on April 9, 1997 at AC&C with a thanks to Captain Terry Laydon, Acting Director of AC&C, for hosting the forum. Mr. Powell asked participants to fill out the Attendee List and include their e-mail address, and fill out the Issue Priority List as each issue was discussed. Minutes of ACF 96-02, with ALPA and ICAO/AIS changes incorporated, were approved. ACF 97-01 attendees are at Attachment 1.

Prohibited Area P-56 Charting

Mr. Will Swank, FAA Washington FSDO, briefed on the formation of a Working Group to address incursions into P-56. Several charting recommendations were developed: publish in the A/FD, Special Notices Section, a 2-page section titled "PROHIBITED AREA (P-56) AVOIDANCE PROCEDURES AND WASHINGTON NATIONAL AIRPORT NOISE ABATEMENT PROCEDURES"; on Sectional, Terminal, and Helicopter charts and IFR Enroute charts, depict prohibited areas in a different manner than restricted/warning/alert areas (different color/graphic); and, add text to the SIDs/STARs and Airport Diagram for Washington National Airport. Mr. Tom Young, ALPA, objected to adding the P-56 diagram and text to existing Noise Abatement Procedures for Washington National. Cdr. Eric Secretan, AC&C, recommended that the two be separated and that the ACF consider only the P-56 issue. The ACF approved that course of action. Mr. Ron Bolton, AC&C, recommended that these issues be considered by the IACC. Cdr Secretan noted that applicable changes would be addressed by the IACC.

Action: Mr. Will Swank, FAA Washington FSDO, will include an FAA/ATA-130 rep and a NIMA rep on his Working Group and report on the status of this at the next ACF. Cdr Eric Secretan, AC&C, and Mr. David Thompson, FAA/ATA-130, will research the origin of the Noise Abatement Procedures section for Washington National and inform Mr. Tom Young, ALPA, and Mr. Dick Powell, FAA/ATA-100.

SID/STAR Clarity

Mr. C.R. Bramble, FAA/ATO-120, briefed the ACF on FAA attempts to declutter and simplify SIDs and STARs. Several options are being considered: turbojet instructions on a separate chart; STAR charts tied to a particular runway end; and, elimination of redundant verbiage (current ACF topic 95-02-068). Mr. Ron Bolton, AC&C, asked that the Published Instrument Departure (PID) issue discussed in the Instrument Procedures session be included in the FAA effort.

Action: Mr. Bramble will brief the ACF on the status of this effort at the next ACF.

4. ICAO AIS/MAP Regional Meeting

Mr. David Lewtas, ICAO AIS/MAP, briefed issues to be considered at the ICAO AIS/MAP Regional Meeting in 1998 in Montreal. The agenda items are at Attachment 2. Comments on the agenda items: 1.1 - Annex 15 specs address only paper/hardcopy data and need to be amended to include digital/electronic data and its transfer and processing;

- 1.2 the AIRAC cycle needs to be amended to allow for on-line provision of aeronautical data;
- 1.3 the introduction of non-ground based navigational aids allow for the discontinuance of magnetic bearing data and its subsequent requirement for inclusion in charting products;
- 2.1 Annex 4 specs do not address the requirements and provision for electronic charts;
 - 2.2 need to define charting specs to support GNSS navigation; 2.3 need to develop specs for the presentation of terrain and obstacles on electronic charts as well as paper charts;
 - 2.4 numerous airspace classes exist worldwide that need to be standardized in criteria as well as depiction;
- 3.2 specifications and procedures must be developed for protection (integrity) of data and electronic databases;
 - 3.3 existing documents do not regulate the provision of copywrited national aero data to non-government companies;
 - 4.2 Annex 1 specs will be amended to require the licensing of AIS/MAP personnel.

All AIS/MAP Study Group working papers will be distributed to the states in early 1998. Input for these papers should be made by June 30, 1997 to Mr. Dick Powell, FAA/ATA-100. Mr. Powell requested that ACF attendees who are on other groups (SAE, RTCA, ATA, Jeppesen) provide any papers available on these topics. This will remain as an open agenda item until the ICAO Regional meeting, with ACF members making inputs/comments on the ICAO agenda items.

Action: <u>All ACF members</u> consider input and papers for submission to Mr. Dick Powell, FAA/ATA-100, by June 30, 1997, for the ICAO AIS/MAP Regional Meeting.

5. Formation of the Charts, Database and Avionics Harmonization Committee The FAA and ATA have jointly established a committee to address the portrayal of instrument approach criteria on FMS-generated displays. The FMS display should match, as closely as possible, corresponding information on instrument approach charts. Current databases do not necessarily conform to the paper charts, either NOS or Jeppesen. The FAA/ATA committee has identified about 100 issues for resolution and prioritization. The committee will not take action to 'fix' the issues, but will identify which agency(ies) should take the responsibility for action. The minutes and issues before this committee were made available to ACF representatives. Many of these issues will come to the ACF for action and resolution.

Action: None, for information only.

6. Area Navigation (RNAV) IFR Enroute Navigation Charts

Ms. Pat Fair, FAA/ATA-130, briefed the formation of an IACC Task Group to address the building of charts to support the Free Flight concept. She asked for community input on the requirements for this new chart.

Action: Ms. Pat Fair, FAA/ATA-130, will brief the status of these charts

at the next ACF meeting.

Transfer of NOS/AC&C to the FAA

Mr. Dick Powell, FAA/ATA-100, briefed the status of the proposed move of NOS/AC&C to the FAA. The FAA's position is that there is no need to tinker with a proven, successful program by moving it. However, AC&C must move. Therefore, the FAA has insisted that AC&C be moved totally intact to the FAA rather than broken up and moved anywhere else (for example DOT/TASC). The 1998 FAA budget includes the funding for AC&C. The current assumption by FAA is that AC&C will leave DOC in FY99 and will go to DOT/FAA.

Captain Terry Laydon, Acting Director AC&C, noted that OMB's original proposals met with widespread opposition in the aviation and chart agent community. NOAA's approach then changed to suggest that AC&C be moved into DOT, either into the FAA or the TASC. DOT has asked for AC&C comments on two options: divest the nautical and NIMA charts from AC&C; or, divide AC&C between the FAA (database compilation) and the TASC (printing and distribution). AC&C counterproposed to DOT that AC&C be moved to DOT as a PBO and keep all of our various responsibilities intact. The FY98 Presidential Budget has all of AC&C funding going to FAA. Any physical move would cut our rental costs significantly but would take at least a year before implementation. Additionally, legislation to allow AC&C to keep funds from chart sales is critical to organizational success wherever it goes. The FAA's position is that AC&C should be a PBO, that reimbursable customers (FAA, NIMA, and NOAA/NWS) should be kept, and that this should be a seamless transfer. The end users, agents, etc. would not even be aware of the transfer, except for a name change.

Action: None, for information only.

8. Charting Symbol for NRP SID and STAR Transitions (97-01-085)
Mr. Arthur Klassen, FAA/ATO-200 (Special Projects), asked that a symbol be developed to identify to the user which SID and STAR transitions fulfill the ingress/egress filing requirements of the NRP; i.e., 200 NM from the point of departure and the destination. The FAA will develop, on an airport by airport basis, SID and STAR transitions that provide for efficient filing of NRP routes. These specific transitions will be designated with a symbol to differentiate them from traditional SID and STAR transitions. Mr. Jim Terpstra, Jeppesen, questioned the use of a symbol. The transitions could change and be added to continuously, requiring numerous chart changes and possibly causing cockpit and dispatch confusion as to what NRP routing is available. Mr. Terpstra suggested that NRP SID and STAR transitions be added to the Master List of Preferred Routes. This would preclude the need for a new symbol. Ms. Fair suggested that the transitions be published in the DACS, through NFDC. Mr. Klassen concurred and will pursue this avenue.

Action: None, for information only.

9. Engine Out Working Group (92-01-003, 93-01-027)

No meetings have been held since the last ACF. The next meeting is scheduled for May 1997. The intent is to look at USGS DEM data rather than produce a paper chart.

Action: None, for information only.

10. IACC Task Group 31 IAP Chart Issues (92-01-011, 92-01-015, 92-01-030, ICAO identifiers on GPS approaches, magnetic versus true orientation, division of TPPs)

Ms. Dalia Marin, AC&C, indicated that the TG had disapproved the use of ICAO idents for GPS approaches because an airport could have more than one identifier if it had both GPS and non-GPS approaches. The problem is caused by the FAA assigning a 2-alpha /2-numeric identifier to airports. Mr. Jim Terpstra, Jeppesen, noted that an international database standard requires a 4 letter identifier, not 3 letter identifiers. Cdr Eric Secretan, AC&C, noted that the FAA needs to agree on the policy of assigning a 3 letter identifier for the airport and then adding a $\mathrm{``K''}$ prefix to make it an ICAO identifier and database compatible. The Magnetic vs True issue was tabled since the ICAO AIS/MAP Regional Meeting would be addressing it. Ms. Marin presented the latest prototype of contoured charts for comment. These charts used various shades of gray and used negative type for the contour elevation. Ms. Marin also presented several variations of the Volpe format for the ACF to consider. These variations were developed to account for data that is not available for depiction (airport sketch, lighting, etc.). Even though most Volpe charts will be the same, some may be 'customized' based on the data available. The IAP reformatting will be done on a volume by volume basis. Ms. Marin asked for comment on charts 2, 5, and 6 of her prototype package, at Attachment 3.

Cdr Eric Secretan briefed a requirement to reorganize the TPP volume coverages because of additional GPS and PID procedures. Two volumes (NC2 and SC2) have reached the maximum size and three other volumes are within 1 year of also reaching maximum size. To handle these volumes, three new volumes will be created and published around October 1, 1997. Mr. Jim Terpstra, Jeppesen, asked Mr. Paul Best, FAA/AFS-420, for his help in eliminating unnecessary non-GPS procedures, allowing them to be removed from the volumes. Mr. Tom Young, ALPA, asked Mr. Best to go to the facilities and ask them to cancel those of their approaches that are not used. There is currently no established procedure or mechanism to cancel approaches. There are many ways to cancel approaches but the real need is to have very high level FAA support for any cancellations. AOPA was not at the meeting to address this issue.

On an allied issue, Mr. Ron Bolton, AC&C, noted that over 2000 changes are made each cycle and that somehow the criteria should be tightened so that the number of changes are reduced.

Mr. David Lewtas, ICAO, briefed that the Air Navigation Commission was examining various examples of contoured IAPs to help refine this requirement.

Action: Mr. Paul Best, AFS-420, Mr. Dick Powell, ATA-100, and Mr. Gene Vrenick, AVN-160, will coordinate on the policy required to begin cancelling unneeded approaches. Ms. Pat Fair, ATA-130, will determine the action required to convert to 4 letter identifiers, with the "K" ICAO prefix. ACF members will review and comment on the IAP prototype package at Attachment 3.

11. VFR Charting Recommendations

Mr. Dave Thompson, FAA/ATA-130, briefed that all previous ACF recommendations had been incorporated into IACC Task Group 25 product specifications. The final spec will be published in the next two weeks. This will be submitted to the ICAO AIS/MAP Charting Work Group.

Action: None, for information only.

★ 12. Release of Digital Terrain Elevation Data (DTED) (93-01-028) Mr. Dick Powell, FAA/ATA-100, reported that an MOU between NIMA, FAA, DOS, and AC&C had been coordinated through all agencies and their legal departments and was in the process of being signed. Once signed, the MOU terms will be made available. Currently, DOS is coordinating with states for the release of DTED data relevant to their state. Release dates and costs are unknown and the format will probably be CD-ROM. It will be titled "Airport Model", labelled a NIMA product, and distributed by AC&C.

Action: None, for information only.

13. SMGCS Charts and Standard Taxi Routes (93-01-024, 93-01-029)
Ms. Pat Fair, ATA-130, reported that Mr. Willie Card is working the funding request, coordination of the FAA Orders (Advisory Circular currently published) and provision of sites (currently 34 in the pipeline). Mr. Card has an additional requirement for a surface movement database. Mr. Powell reported that funding has been identified but not released for this project. AC&C currently plans on printing this information in NOTAMs. Mr. Tom Young, ALPA, believed that requirements for these charts will be limited to air carriers, some corporate users, and a few military users. Cdr Secretan, AC&C, reported that there was no efficient way at this time to determine general aviation requirements and that a best guess estimate would be made.

Action: Ms. Pat Fair, ATA-130, will report on the status at the next ACF meeting.

14. IAP Reformat (92-01-006, 92-01-012, 92-01-013, 92-01-014, 94-01-039, 95-01-065)

Mr. Mike Reilly, NIMA, stated that the NIMA reformat would be done in conjunction with their conversion to digital production of IAPs. Mr. Bob Beatty, USAFFSA, reconfirmed that the services would accept two formats in use simultaneously. Mr. Dick Powell, FAA/ATA-100, will go out with a user survey and a CCP. Mr. Powell asked for prototypes from AC&C. Cdr Secretan suggested that the ACF comments asked for in paragraph 10 be considered by the IACC Task Group prior to finalizing the prototype for review and comment. Mr. Beatty noted that this prototype had been through years of human factors engineering, simulator, and operational testing and was being used by the airline community. Mr. Beatty recommended that a preface to the survey outlining this history and effort be included in the survey. It was decided that trying to factor in contours and the TAA concept with the new format would be too confusing. The prototype will only be concerned with the format itself. Concern was expressed by Mr. Paul Best, FAA/AFS-400, and Mr. John Moore, AC&C, over including IACC TG proposed changes to the previously coordinated Volpe format. Their recommendation was to send out the survey with only the previously coordinated Volpe format.

Action: Ms. Pat Fair, FAA/ATA-130, will coordinate with Cdr Eric Secretan, AC&C, to develop the questions for the user survey. Ms. Fair will also coordinate on a CCP and will report on the status at the next ACF meeting.

15. Obstruction Data to Support Take-off Performance Calculation (92-01-003) See paragraph 9.

- 16. Depicting Communication Frequencies on IAP Charts (92-01-006) See paragraph 14.
- 17. Use of Color on IAPs (92-01-011) See paragraph 10.
- 18. Warning and Caution Notes on IAPs (92-01-012)
 Print Size and Readability of IAPs (92-01-013)
 Use of Icons on IAPs (92-01-014)
 See paragraph 14.
- 19. Obstacle and Terrain Contour Depiction on IAPs (92-01-015) See paragraph 10.
- 20. Obstruction Data in Digital Form (93-01-027) See paragraph 9.
- 21. Terrain Database/Release of DTED (93-01-028) See paragraph 12.
- 22. GPS Overlay and GPS Charting (93-01-030) See paragraph 10.
- 23. Changes to the Terminal Procedures (94-01-039) See paragraph 14.
- 24. Parachute Jumping Areas on VFR Charts (94-01-040)
 Class C Airspace on VFR Charts (94-01-041)
 Communication Frequencies on VFR Charts (94-01-042)
 Class B Airspace on VFR Charts (94-01-043)
 See paragraph 11.
- 25. Charting Permanent Laser Sites (94-02-053)

Mr. Tom Young, ALPA, reported that the SAE G-10 Laser Subcommittee had not yet formalized what should be charted.

Action: Mr. Tom Young, ALPA, will report on the SAE G-10 efforts at the next ACF meeting.

*\footnote{\text{ Military Aviation Technology Initiative (95-01-057)}} \text{Mr. Mike Reilly, NIMA, reported that the Aeronautical Database Maintenance (ADM) was outdated and being phased out. The new system is the ADDS (PC-based and uses COTS software) and will come on-line May 3, 1997. CD-ROMs have been produced on the new system already. NIMA has proposed to the FAA and AC&C that they use the NIMA system also. Mr. Dick Powell, FAA/ATA-100, stated that the FAA is also establishing a new system but that they are still looking at the NIMA system. Mr. Reilly noted that NIMA will be producing both DFLIP (Digital FLIP/DAFIF) and a Vertical Obstruction database on CDs with this new

system. Both will be in Vector Product Format (VPF).

Action: None, for information only.

27. Visibility of ATC Frequencies on Sectional Charts (95-01-058) See paragraph 11.

28. Removal of Mountain Pass Symbology (95-01-061)

Cdr Eric Secretan, AC&C, reported that pilots were misinterpreting the charted elevation data, that using a dot to indicate the location of the highest elevation was also confusing, and that elevation data from USGS is not available for all passes. He reported that AC&C recommended developing the highest elevation for the pass area (not just within the pass) and publish it for each pass. Mr. Tom Young and Mr. John Moore disagreed with this recommendation since the elevation could apply to any area within or outside of the pass. The elevation published would be the determined highest elevation within the pass, rounded up to the next highest contour elevation. The pass symbol has important and significant landmark value and should remain on the charts. Capt Laydon would prefer that the symbol remain but that no elevation be published. Publishing elevation could lead pilots to misinterpret what it could be used for. Mr. Paul Best, FAA/AFS-400, recommended that the AOPA Mountain Flying group be asked to comment, possibly through the AOPA Aviation Safety Foundation.

Action: <u>Cdr Eric Secretan, AC&C,</u> will ask the AOPA/ASF for their review and comment.

29. Equipment Required on Intermediate Segments (95-01-065)

Mr. Jim Nixon, FAA/AFS-420, reported that no work has been done on the development of the icons to depict equipment requirements. It was recommended that this issue be considered with the IAP Reformat. This issue could be handled by a procedure note on the 8260, and when the new RNAV plates are developed then the icons can be developed. The ACF concurred. See paragraph 14.

30. Unnamed Fixes on Enroute Charts (95-01-066)

Ms. Pat Fair, FAA/ATA-130, stated that this issue is complete except for FAA/AVN-100 signing the copies of the 8260-2s. Ms. Janet Drucker, AC&C, reported that they had forwarded 133 8260-2s to Terry DePlois, FAA/AVN-160, and another 30 were being worked. Once AVN signs them, they will be put into the NFDD and charted.

Action: Ms. Pat Fair, FAA/ATA-130, will report on the status at the next ACF meeting.

31. Redundant Verbiage on SIDs/STARs (95-02-068)

Mr. Rudy Ruana, Jeppesen, and Chair of the ACF Working Group on SIDs and STARs, reported that action remains with the FAA General Counsel and Ms. L'Tanya Talley, FAA/ATO-110 to make the changes to the Form 7100.

Action: Ms. L'Tanya Talley, FAA/ATO-110, will coordinate required changes to the Form 7100.

32. Boundary of VFR Terminal Chart on Sectional Charts (95-02-070) Airspace Change Dates on Sectional Charts (95-02-071)

See paragraph 11.

33. Inoperative Components Table (95-02-075)

Mr. Mike Reilly, NIMA, reported that the FLIP Coordinating Committee had decided to publish the table on the back inside cover of their TPPs.

Action: Closed

34. Adding GPS Waypoints to Charts (96-02-078)

Mr. Terry DePlois, FAA/AVN-160, recommended that some sort of linkage be established between GPS waypoints depicted on GPS SIAPs and those same GPS waypoints depicted on the Enroute charts. This might be done by depicting the terminal waypoint on the enroute chart and vice versa. The ACF agreed unanimously that a waypoint used to transition from the enroute to the terminal structure should not only have a common name but also should be depicted on both enroute and terminal charts. There are several issues (charting GPS waypoints over Navaids, naming conventions) that should be considered along with this topic. It was recommended that an ad hoc committee be established to address all. This committee will, with ACF approval, forward the recommendations to AFS-420 for their action.

Action: Mr. Terry DePlois, FAA/AVN-160, will report on the status of the ad hoc committee recommendations at the next ACF.

35. Glide Slope Barb Length on Profile (96-02-079)

Mr. Terry DePlois, FAA/AVN-160, requested that the phrase to indicate the facility service volume be developed by AFS-400.

Action: Mr. Paul Best, FAA/AFS-400, will coordinate with Mr. Terry DePlois, FAA/AVN-160, on a phrase for use on the 8260 that will indicate the facility service volume, and will report on the status of this issue at the next ACF.

36. Location of STARS in the TPPs (96-02-081)

Cdr Eric Secretan, AC&C, reported that grouping the STARs in front the TPP volume by area (areas to be alphabetized) and then alphabetically within the area could cause confusion because of name uncertainty. The other options considered would result in over 825 duplicate charts and cost over \$250 million.

Action: Closed

37. Procedure Change Flag on IAPs (96-02-083)

Cdr Eric Secretan, AC&C, reported that he submitted an editorial change to the TPP Front Matter to explain what the J-date means.

Action: Closed

\times 38. RNAV Approach Plates (96-02-084)

The FAA Satellite Procedures Implementation Team (SPIT) met to develop an approach plate to depict multiple RNAV approaches. The prototype plate includes the TAA (T-concept), and the various types of RNAV approaches on a single plate to a given runway.

Action: Mr. Jim Nixon, FAA/AFS-420, will report on the efforts of the SPIT at the next ACF.

39. Communication Frequencies and SATCOM Voice Information on Oceanic Enroute Charts (97-01-086)

It was decided that this was an IACC issue. NIMA will coordinate this issue with the IACC and respond to the submitter.

Action: Closed

40. "J Date" and "Amdt" Number Depicted on IAPs (97-01-087) Already being worked as issue 96-02-083.

Action: Closed

41. No Military Landing Rights Available (97-01-088)

VFR charts do not indicate the availability of military landing rights. IFR Low Enroute charts put a parenthesis around the airport name to indicate military landing rights availability. It was suggested that this data be put into the A/FD in the Airport Remarks Section. This information is included in the NFDD. NIMA was asked to provide FAA a list of the airfields.

Action: Mr. David Thompson, FAA/ATA-130, will look into amending the A/FD specification to allow the depiction of 'no military landing rights' in the Airport Remarks Section. Mr. Thompson will report on the status at the next ACF meeting.

42. Marking/Symbology for the Non-Towered Airports with Non-Standard Traffic Patterns (97-01-089)

The suggestion would effect a change to the visual charts in order to present information that is already available in the A/FD. According to the submitter, a different symbol for the airport would be preferable. This will be forwarded to the IACC for consideration.

Action: Mr. David Thompson, FAA/ATA-130, will submit this to the IACC and report on the status at the next ACF meeting.

43. Depiction of GPS Database Points on IAPs (97-01-91)

Mr. Jim Terpstra, Jeppesen, reported that they have identified database points that are used for 'or GPS' approaches that are not charted on AC&C IAPs. The computer navigation fixes are in ARINC format and charted in italics on Jeppesen charts. Mr. Ron Bolton, AC&C, recommended forming an ad hoc committee to address all the aspects (charting criteria, regulatory, etc.) of this issue. The ad hoc committee will be chaired by Mr. Ron Bolton. The committee members are at Attachment 4.

Action: Mr. Ron Bolton, AC&C/ACD, will report on the status of this issue

at the next ACF meeting.

44. VFR Charting of Cellular Towers (97-01-092)

Tower strikes number about 15 per year (rotorcraft and general aviation aircraft combined). Mr. Richard Wright, HAI, asked if the charting process was able to keep pace with the construction, estimated to be 1667 per month. The FAA's Obstacle Evaluation AAA process is being streamlined in order to keep the Digital Obstacle File up-to-date. This DOF is available to the public on a 56 day cycle in floppy disk format. Mr. Art Dodds, AC&C, reported that the FCC has transferred data accountability to the tower owner and that many of these new towers are 'piggybacked' on existing towers. AC&C verification of these towers will still be required before they are charted. The unverified towers will be charted as 'UC'.

Action: Closed

45. Charted Fixes with No Apparent Purpose on SIAPs (97-01-093)

This was transferred from the Instrument Procedures group. Secondary missed approach procedures exist at a few airports and the IAP has this secondary MAP terminus fix charted, without an explanation of the missed approach procedure itself. This causes confusion in the cockpit about what the terminus fix means and why it is charted. From a charting perspective, this is clutter that should be removed. Mr. Terry DePlois, FAA/AVN-160, stated that they would look at the example used (Napa Valley VOR/GPS Rwy 6)) to determine why the fix was on the chart. If there was no rationale given/determined, then the fix could be removed.

Action: Mr. Terry DePlois, FAA/AVN-160, will look into the rationale and report on the status at the next ACF meeting.

\searrow 46. Closing Comments

The next meeting will be October 27-30, 1997 at FAA offices in Washington, DC. The Instrument Procedures Group will begin their meeting at 1300 on October 27 and continue through October 28. The Charting portion will begin at 0900 on October 29.

Attachments

Aeronautical Charting Forum 97-01 Attendees

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(for Tim Duerson)				
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Ad Hoc Committee on GPS Database Points on IAPs

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⊬ах:	Fax:	Fax:	Fax:	Fax:	Fax:	Fax:	Fax:
301-713-2836	405-954-0188	202-267-3745	202-267-3073	405-954-0188	303-784-4401	703-264-3003	301-713-2958
NOS/AC&C/ACD AOPA	FAA/AVN-160	FAA/AFS-420	FAA/AGC-230	FAA/AVN-160	Jeppesen	NIMA	NOS/AC&C/ACD
Ronald Bolton TBD	Terry DePlois	Dennis Newport	Troy Rolf	Eugene Vrenick	Jim Terpstra	Tim Duerson	Dalia Marin