

Government/Industry
Aeronautical Charting Forum (ACF) 96-01
April 30 - May 2, 1996

1. **Opening Remarks**

The two day meeting was held at the Headquarters of the Air Transport Association (ATA) in Washington, DC. Mr. Paul Best, FAA/AFS-420, Co-Chair of the ACF, chaired the TERPs portion of the Charting Forum on April 30, 1996. Separate minutes of the TERPs meeting will be generated and sent to those participants.

Mr. Dick Powell, FAA/ATP-220, Co-Chair of the ACF, opened the Charting Forum on May 1, 1996 at ATA headquarters with a thanks to Mr. Bill Thomas, ATA, for hosting the forum. Mr. Powell asked participants to fill out the Issue Priority List as each issue was discussed. Minutes of ACF 95-02 were approved. ACF 96-01 attendees are at Attachment 1.

2. **DOT/DOC Inspectors General Study of the Office of AC&C**

Mr. Dick Powell, FAA/ATP-220, briefed the ACF on the upcoming joint IG study. The question that the IGs will answer is: where should the aeronautical charting program of AC&C be located (i.e., NOS, FAA, DMA, USGS, separate corporation, etc.)? The IGs want to meet with aviation interest groups to get their comments.

The proposed timeframe for the meeting would be May 8-17, 1996.

Capt Terry Laydon, Acting Director of AC&C, stated that the NOS core mission is changing to a Coastal focus and that aeronautical charting is no longer a part of the new NOS mission. It appears that the FAA doesn't want to take on aeronautical charting. OMB directed the DOC and DOT IGs to study the issue and come back with a jointly agreed upon position. The IGs are visiting Jeppesen next week. No stone will be left unturned. Mr. Powell stated that the FAA's official position is that they are concerned with the funding and program risks associated with charting. Several funding sources are currently at risk. The FAA would also have to absorb 360 positions, when the government is in the process of downsizing. Mr. Tom Young, ALPA, asked NOS for a list of functions they perform that may not be so well known. The aviation association groups would like to have this information prior to their meeting with the IGs.

Action: Capt Terry Laydon, NOS/AC&C, will provide the list to the association representatives. Meetings with the IGs were agreed upon for: May 8, 1996 at 10:00am at AOPA and May 13, 1996 at 1:00pm at ATA.

3. GPS Airport Survey Program

Mr. Bob Fischer, NGS, stated that the Engine Out Surveys were discontinued in January, 1996. The FAA could not continue to fund these surveys. NGS will attempt to redesign the Airport Survey Program (which is funded) to capture and provide the engine out survey data. Also, see comments in paragraph 7.

Action: Closed

4. Free Flight Program

Mr. Lane Speck, FAA/AT, briefed the ACF on the status of the Free Flight Program. Free Flight will be an evolutionary process. Electronic display of data will become more sophisticated and critical. The current airway system will become skeletal and be replaced by the creation/selection of waypoints. Reduced separation standards will depend on well-equipped aircraft with GPS, 2-way Datalink, and an ADS system, i.e., CNS/ATM capabilities. Air Traffic Control (ATC) restrictions will be limited in extent and duration to correct identified problems. ATC will intervene only to ensure separation, to preclude airport overloading, to prevent unauthorized flight through Special Use Airspace, and to ensure safety of flight. The need for an off-route terrain data base will be market-driven and may not be required for fixed city-pair routes.

Mr. Jim Terpstra, Sr VP Jeppesen, asked who was taking responsibility for the development of the new system of paths, routes, points, etc., to replace the current airway system. Mr. Speck replied that the FAA has an Airspace Group headed by Mr. Hal Becker, that is responsible for the redesign. Mr. Speck also stated that a group like the ACF should take the lead on coordinating input into the design.

Action: None

5. Controlled Flight Into Terrain (CFIT)

Mr. Dan Hannon, Volpe NTSC, briefed the ACF on a new study being funded by FAA/AAR-100 that will look at the role of map displays in reducing CFIT accidents. The assumption is that if a pilot is shown where the terrain is in relation to his position, then he won't run into it. The problems are: how to best depict the terrain so the pilot has terrain awareness; and, how to best depict the aircraft position so the pilot has situational awareness. Some questions that need to be answered: how will information be formatted for display, should cautions, notes, and warnings be displayed, which information will be in which layers for display selections and, how should information be prioritized. The system performance will be driven by database resolution, aircraft performance capabilities, and pilot response times.

Action: Mr. Dan Hannon, Volpe NTSC, will brief the status of the CFIT study at the next ACF meeting.

6. Loose Leaf Terminal Procedures Publication

Mr. Dick Powell, FAA/ATP-220, briefed that as of April 25, 1996, the Terminal Procedures Publications were available in both loose leaf and bound formats. The aviation community is pleased with the choices.

Action: Closed

7. Release of Digital Terrain Elevation Data (DTED) (93-01-028)

Mr. John Doty, DMA, stated that DMA wants to be supportive of, and has had a long term interest in, civil aviation flight safety. DMA's release of DTED data is constrained by: user's requirements for unclassified data; international agreements and sensitivities; concerns of military commanders and the intelligence communities; and, possible overload on DMA resources to meet high DTED demand. DMA is not allowed to produce DTED for non-military requirements direct from the civil community, but will use the FAA as the source for civil user requirements. DMA intends to: use existing DTED data; coordinate with the international community; and, help create the software algorithms needed to produce derivative DTED data. DMA is currently negotiating with NASA to collect Space Shuttle radar imagery to

further develop DTED Level 1 data. DMA is willing to create an MOU with the FAA to provide the DTED data.

Action: Mr. John Doty, DMA will coordinate with FAA and AC&C to begin development of an MOU to provide DTED data and report on the status at the next ACF meeting.

8. Obstruction Chart - Engine Out (92-01-003, 93-01-027)

Ms. Linda Cushing, AC&C, reported that the Engine Out Working Group (EOWG) had looked at a scanned Sectional Chart on a moving map display. The laptop display shows the vertical profile of terrain and obstructions beneath the flight path. The EOWG had requested modifications to the software program to make it more useful. The FAA agreed to fund software modifications as long as the cost was recoverable. Airport sites to be covered and ability of the product to meet user needs will need to be addressed by the EOWG. FAA/ATP-220 appointed Mr. Dave Thompson to be the Chair of the EOWG. AC&C will appoint a representative. Mr. Thompson will call for a EOWG meeting and Mr. Bill Thomas, ATA, will notify members of the EOWG. The list of EOWG members is at Attachment 2. Also, see comments in paragraph 3.

Action: Mr. Dave Thompson, FAA/ATP-220, will call for a meeting of the EOWG to address two issues: site selection and product suitability. Capt Terry Laydon, AC&C, will appoint a representative to the EOWG. Mr. Thompson, FAA, will report on the status of the EOWG actions at the next ACF meeting.

9. GPS Charting Working Group (93-01-030)

Ms. Dalia Marin, AC&C, reported that all issues for stand alone GPS approaches had been addressed except two: use of ICAO identifiers; and, orientation in true or magnetic. The 300 plus GPS approaches currently published will be changed as needed to reflect the Missed Approach Point at the runway threshold. AC&C is developing prototype IAPs based on the new Terminal Area Arrival (TAA) concept. AC&C is also developing plans to increase the number of Terminal Procedure Publication Volumes to handle the additional GPS approaches. Some single state Volumes (e.g., Texas, California, Michigan) may need to be divided, as early as October 1996. A survey has been sent to pilots to ask for their choice between three different splitting options.

Action: Ms. Dalia Marin, AC&C, will report on the status of the two issues still before the GPS Working Group and the result of the survey on splitting the TPP Volumes.

10. **SMGCS Charts and Standard Taxi Routes (93-01-024, 93-01-029)**
Mr. Steve Lucchesi, FAA/ATP-220, briefed on the IACC Task Group 30 Final Report and associated IACC Specification Changes approved by the IACC. The Land and Hold Short procedures will be tabulated by airport in the front of the TPP volume. The SMGCS Charts and Standard Taxi Route procedures will be published in a separate product, yet to be titled, in a 10" x 10" format, with a 28 day Change Notice to be published as required. Mr. Dick Powell, FAA/ATP-220, noted that funding of this new product was an issue that needed resolution prior to production. Ms. Linda Cushing, AC&C, stated that a production Contract does not yet exist for this product and that AC&C may have to print this in-house at the Reproduction Division until a Contract has been approved. The initial production run will be 2,000 to cover FAA and DoD user requirements.

Action: Closed

11. **IAP Reformat (92-01-006, 92-01-012, 92-01-013, 92-01-014, 94-01-039)**

Mr. Dick Powell, FAA/ATP-220, stated the FAA was waiting on formal DMA approval on the use of the reformatted IAP prototypes before going out with a user survey. Maj Tim Duerson, DMA, stated that the tri-service FLIP Coordinating Committee (FCC) was coordinating a formal requirement for the reformatted IAP and that it should be forthcoming.

Action: Maj Tim Duerson, DMA, will provide a formal FCC position on the reformatted IAPs. Assuming approval and a stated requirement, Mr. Dick Powell, FAA/ATP-220, will send out a user survey to determine the civil aviation community's desire for reformatted IAPs. Maj Duerson and Mr. Powell will report on the status of their respective actions at the next ACF meeting.

12. **VFR Charting Recommendations (94-01-040, 94-01-041, 94-01-042, 94-01-043, 95-01-058, 95-02-070, 95-02-071)**

Mr. Bob Beatty, USAFFSA, reported that the services had flown with the new prototype at night and believed it to be an

improvement over the current Sectional Chart. Mr. John Brennan, AC&C then briefed the final charting changes recommended by the AOPA Air Safety Foundation and IACC Task Group 25, and asked for comment. The ACF approved the changes.

Action: Mr. Dave Thompson, FAA/ATP-220, will brief the status of the implementation of the IACC Specification Changes to the Sectional Chart.

13. Color Contours on IAPs (92-01-011, 92-01-015)

Mr. Dick Powell, FAA/ATP-220, reported that the FAA sent out a Cartographic Change Proposal (CCP) to 17 industry representatives and 26 government representatives. They received responses from 8 industry reps and 18 government reps. Most concurred with the CCP. One (1) industry rep and three (3) government reps nonconcurred with the CCP. Mr. Ron Bolton, AC&C, recommended that this response be recognized as an overwhelmingly positive position and that we continue to move forward on this project. Mr. Tom Young, ALPA, asked if the nonconcurrers could be given more information on the proposal, with the assumption that they would then concur. Mr. Powell will provide further information to the nonconcurrers and ask that they provide comment and rationale if they still nonconcur. Mr. Young volunteered to provide the CFIT viewpoint to those who nonconcurred. Mr. Bob Hall, ALPA, recommended that the next CCP contain smoothed, black and white, and shaded gray contours as opposed to colored contours. Maj Tim Duerson, DMA, recommended that color contour IAP charts be published in a separate volume and only contain mountainous area airports. This volume would be tailored to meet CFIT concerns and would contain approximately 450 charts.

Action: Mr. Dick Powell, FAA/ATP-220, will notify the nonconcurrers that Mr. Tom Young, ALPA, will speak with them on this issue.

14. Obstruction Data to Support Take-off Performance Calculation (92-01-003)

See paragraph 8.

15. Depicting Communication Frequencies on IAP Charts (92-01-006)

See paragraph 11.

16. Use of Color on IAPs (92-01-011)

See paragraph 13.

17. 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 11.

18. Obstacle and Terrain Contour Depiction on IAPs (92-01-015)

See paragraph 13.

19. Aircraft Movement Area Boundary Depiction on Aerodrome Charts (93-01-024)

See paragraph 10. Closed

20. Obstruction Data in Digital Form (93-01-027)

See paragraph 8.

21. Terrain Database/Release of DTED (93-01-028)

See paragraph 7.

22. Standardized Taxi Routes (93-01-029)

See paragraph 10. Closed

23. GPS Overlay and GPS Charting (93-01-030)

See paragraph 9.

24. Changes to the Terminal Procedures (94-01-039)

See paragraph 11.

25. 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 12.

26. Charting Permanent Laser Sites (94-02-053)

Mr. Tom Young, ALPA, reported that the SAE G-10 Laser Subcommittee had not formalized what should be charted. Mr. Dick Powell, FAA/ATP-220, reported that all lasers had been shut down temporarily, until further testing and evaluation could be done.

Action: Mr. Dick Powell, FAA/ATP-220 and Mr. Tom Young, ALPA, will report on the FAA and SAE G-10 efforts, respectively, at the next ACF meeting.

27. Military Aviation Technology Initiative (95-01-057)

Maj Tim Duerson, DMA, briefed that DMA had become an active member of the SAE G-10 Aeronautical Charting Subcommittee.

Action: Maj Tim Duerson, DMA, will report on the status of DMA's electronic charting efforts at the next ACF meeting.

28. Visibility of ATC Frequencies on Sectional Charts (95-01-058)

See paragraph 12.

29. Holding Pattern Restricted Airspeed Depiction (95-01-060)

Cdr Eric Secretan, AC&C, reported that the IACC had approved the Requirement Document and that it was being implemented.

Action: Closed

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

Cdr Eric Secretan, AC&C, reported that the IACC was still coordinating on this IACC Requirement Document.

Action: Cdr Eric Secretan, AC&C, will report on the status of the IACC RD at the next ACF meeting.

31. Conversion of Offshore Reporting Points to Waypoints (95-01-063)

Mr. Bill Moseley, FAA/ATR-110, reported that they had received approximately 300 of the 500 offshore reporting points and unnamed fixes from Jeppesen. Conversion of these will be completed in 3 to 4 phases and may be done by the next ACF meeting. This issue was addressed by the ACF Ad Hoc Committee. Also, see paragraph 34.

Action: Mr. Bill Moseley, FAA/ATR-110, will report on the status of the conversion effort at the next ACF meeting.

32. Digital Obstacle File Software Utilities (95-01-064)

Mr. Ron Bolton, AC&C, reported that the addition of a simple polar search engine could not be done at minimal cost, as initially hoped for, and that it was an unfunded requirement. Mr. Charles Guy, ASAP, the originator of this requirement, withdrew the requirement.

Action: Withdrawn

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

There was no report on the development of the icons to depict the equipment requirements.

Action: Mr. Jim Nixon, FAA/AFS-420, will report on the development of the icons and explanations/descriptions at the next ACF meeting.

34. Unnamed Fixes on Charts (96-01-066)

See paragraph 31.

35. GPS Overlay Program (95-02-067)

Mr. Paul Best, FAA/AFS-420, reported that the initial AOPA position was that all phases of GPS approaches should be published to give pilots more options. Mr. Best asked AOPA to be prepared to present their case at this ACF meeting. AOPA did not address this issue at this ACF meeting. The TPP volumes are increasing in size to the point where they will require splitting and excess phases of GPS approaches cannot be afforded. The FAA position is that there will be only one GPS approach published per runway end. The ACF concurred with that position.

Action: Mr. Paul Best, FAA/AFS-420, will coordinate the removal of multiple phase GPS approaches with Jeppesen and report on the status of this effort at the next ACF meeting.

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

Mr. Rudy Ruana, Jeppesen, and Chair of the ACF Working Group on SIDs and STARs, reported on their discussions with AOPA. AOPA agreed that eliminating the redundant verbiage was a good idea. Minutes of the meeting are at Attachment 3. Mr. Bob Beatty, USAFFSA, reported that pilots flying with the previously supplied prototype had positive comments on it. Mr. Bill Thomas, ATA, and Mr. Tom Young, ALPA, both support eliminating the redundant

verbiage and standardizing symbology with that used in the reformatted IAPs. The ACF concurred.

Action: Ms. L'Tanya Talley, FAA/ATO-110, will coordinate required changes to the Form 7100. Mr. Tom Young, ALPA, will work through the ATPAC to coordinate changes in the SID and STAR Orders and the Form 7100. Mr. Charles Branch and Ms. Dalia Marin, AC&C, and Mr. Rudy Ruana, Jeppesen, will coordinate on the elimination of redundant verbiage from the SIDs and STARs being published for the Dallas Metroplex.

37. Screening Water Areas on IAPs (95-02-069)

The members of the ACF reported that there was no interest in this from their organizations. The ACF disapproved.

Action: Disapproved

38. Boundary of VFR Terminal Chart on Sectional Charts (95-02-070)

Airspace Change Dates on Sectional Charts (95-02-071)

See paragraph 12.

39. Mileage Table for IFR/VFR Low Altitude Planning Chart (95-02-072)

Mr. Dick Powell, FAA/ATP-220, reported that this table had been added to the IFR/VFR Low Altitude Planning Chart effective with the April 25, 1996 edition.

Action: Closed

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

Maj Tim Duerson, DMA, reported that the FLIP Coordinating Committee had not yet considered a common position on the table.

Action: Maj Tim Duerson, DMA, will coordinate with the Services and provide their common position at the next ACF meeting.

41. Windows 95 for the Digital Obstruction File and the Navaid File (96-01-076)

Mr. Charles Guy, ASAP, requested that the Digital Obstruction File and the Navaid File be updated to the Windows 95 operating system format. This would contribute to ease of use and their

integration with other databases. Mr. Ron Bolton, AC&C, stated that many of the problems Mr. Guy expected to be solved by the use of Windows 95 would still exist. The feeling was that this was an inconvenience rather than a necessity and that rewriting the files would be an unfunded cost that AC&C would have to bear.

Other ACF members did not have a Windows 95 requirement, so the ACF disapproved this.

Action: Disapproved

**42. Flight Management System Vertical Navigation (FMS VNAV)
(96-01-077)**

Mr. Jim Terpstra, Jeppesen, briefed the ACF on an RTCA SC 181 issue concerning the final approach coding for IAPs in an FMS database. He requested feedback and comment on the paper, "Final Approach Coding: VNAV Path Construction and Missed Approach Point Positions", at Attachment 4. This paper was published subsequent to FAA policy statements that clarified the identification of fixes at Landing Threshold Points (LTP) and Navaid locations, i.e., waypoint names will be given to Missed Approach Points not at the LTP and to GPS procedure fixes not at the LTP and not at a Navaid location. Two issues were raised. One, since some procedural waypoints included in the FMS database will not be named nor charted, this can, and does, create cockpit confusion. Is there a general aviation requirement to chart waypoints on IAPs that are currently in an airborne database? Second, the airlines are asking for the VNAV path to be charted in the profile view on the IAP. The path would be charted only when an obstacle evaluation had been performed and there was a VASI and a Visual Descent Point. Several ACF members expressed the concern that the VNAV graphic could be misinterpreted on the already crowded profile view.

Action: Melissa Bailey, AOPA, will determine if AOPA will back a requirement to chart waypoints on IAPs that are currently in airborne databases and report at the next ACF meeting.

43. Closing Comments

The next meeting will be October 8-10, 1996 at AC&C offices in Silver Spring, Maryland.

Attachments

Engine Out Working Group

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Ravine Agarwal	Jeppesen	303-799-9090	Fax:
Rudy Ruana	Jeppesen	202-331-7727	F296-0278
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Attachment 1

Jesse Salter	JPL	202-426-9250	Fax: 9355	
Marv Harvey	NAVFIG	202-433-3473	Fax: 3458	
Ronald Bolton	NOS/AC&C/ACD	301-713-2836	Fax: 4410	
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SID/STAR AOPA MEETING, APR 3

FROM: Rudy Ruana

TO: See Distribution, Attachment #2

MAILING ADDRESS:

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Washington, DC 20036-4405
USA

DATE: April 8, 1996

TOTAL PAGES: 6
(including this page)

Hello SID/STAR Reformat Working Group Members:

A full Reformat Working Group meeting was not held for a variety of reasons. Many actions have occurred however. The attached minutes of a meeting at AOPA indicate that for the most part, the user community is in favor of starting work to implement a new concept in the portrayal of SID/STARS to the pilot.

We believe preliminary ground work has been laid, and the right people will attend the next FAA ACF to make very positive progress on this issue.

Please call with comments or questions. If we don't hear from you before, will see you at the ACF.

Best regards

Rudy

Atch.3

April 5, 1996

Rudy Ruana

FAA ACF Agenda Item 95-2-68 Redundant Verbiage on SIDs/STARs

To: See Distribution

Subject item (attachment # 1) was presented by NOS and Jeppesen at the September 1995 FAA ACF. The proposal was received in a generally positive manner. It was clear that implementation would take combined input from a number of different disciplines. It was determined that at least a general feeling of consensus was necessary from the end user pilots before work could be started.

An SID/STAR Reformat Working Group was formed, (see attachment # 2). FAA provided draft ACF minutes for comment Nov 7 and final minutes Mar 15. In the interim NOS John Moore presented the new SID/STAR concept with verbiage removed at the January 96 SAE G-10 Aeronautical Charting Subcommittee in Daytona Beach. A rough take on the opinions so far has been that the aviation community at large is in favor of reducing redundant verbiage on SIDs/STARs.

We believed that it would still be useful to address the AOPA concern expressed at the September ACF before we moved forward with a full working group meeting. AOPA wanted to be assured that requirements for pilots to have at least the textual description of the SID or STAR could be met if the procedures were reduced to a graphic only. While we were not able to resolve that issue, it did serve as the bases for the April 3 meeting at AOPA to discuss the subject in a broader context.

FAA Steve Luchessi, NOS John Moore, and Jeppesen Rudy Ruana attended. AOPA representatives included Doug Helton-Reg Policy, Martin Shuey-Air Traffic, Al Marsh-AOPA PILOT Magazine, and John Sternagle from the AOPA Safety Foundation.

Discussion items included military SIDs and STARs for Andrews AFB and McGuire. ACF Air Force member Bob Beatty, had volunteered to obtain pilot comments on prototypes of the new concept. Air Force evaluations are in progress and we anticipate comments from Bob at the next ACF.

Delta Airlines had experienced some challenges with the design of complex North/South STAR arrivals at Salt Lake City Int'l. At Delta's request Jeppesen redesigned the procedures employing the new charting concept. Delta has expressed major satisfaction in operational use. At AOPA our joint review of the new concept charts and NOS originals complete with all the required redundant verbiage seemed to indicate that the new design was definitely an improvement.

At the meeting a final item was the group's review of a complex Flight Management System (FMS) Divet One Arrival to Salt Lake City Int'l. It provided transitions for landing to the south for three runways and positioning for vectors landing to the north for two runways. Included was substantial altitude information. The point of our comments is that an extreme amount of complex information can be displayed with graphics and Icons with very little textual information. It served as example of what can be accomplished. We should note that the procedure was portrayed on an 8.5" by 11" sheet of paper.

A summary of one liners to reflect the conversation:

- As a condition for change, ATC controllers must retain the ability to read SIDs/STARs to provide at least the approved textual description per AIM paragraphs 5-2-6. a.2. and 5-4-1.c. for those pilots who do not have the SID/STAR.

- ATC would manage the availability of text for the above purpose through their own methods. Text need not be repeated textually on a graphic to convey regulatory intent once accepted by the pilot in an ATC clearance.

- Rapid transition to glass cockpits will preclude the luxury of having information duplicated in two places on the published procedure.

- Textual information is difficult to find and incomplete once found. Example, transition information does not provide the required facility frequency.

- FAA 7100- series Forms should provide the charting agency the lateral to chart or not chart certain text. Regulatory material intent would not be changed. FAA Orders 7100.8B and 7100.9B under BACKGROUND and DEFINITIONS would change the language from, "...printed in graphic and/or textual form. ... published for pilot use in graphic and/or textual form. ". The end intent is to permit charting agencies to convey the ATC clearance intent precisely as issued. It may only be the graphic with no text. It was recognized that in some cases text is necessary to convey exact intent.

- FAA Orders 7100.8B and 7100.9B provide ATC facilities the lateral to not require duplicate textual information. The facilities do not make use of this provision. The positions should be reversed with the rule being that text is not charted as a rule, unless it is required.

- Specifically, transitions were reviewed. There appeared to be no value in repeating the arrival and departure route descriptions textually.

- Charting symbology clearly identifies transition name, transition track, minimum en route altitude, and segment mileage.

- The transition name includes the route identification code when one is assigned on the graphic.

- The continued requirements for pilot pre-briefing were recognized. The value of textual information must be considered in this light. It was noted that current textual verbiage does not meet this requirement also requiring reference to the graphic.

- The lost reinforcement value of cross checking information contained in the graphic against the textual information was raised.

- Several issues were mentioned to streamline procedure design such as: more use of DME, constant rate descents where possible, reduced doglegs where possible, recognize problems that the "expect altitudes" cause FMS users, etc. These issues can be expanded as the working group's efforts proceed.

- A quick review of the SIDs/STARs in California revealed that 17 procedures required

printing on either both sides of the same piece of paper or two pieces of paper. While this may not be a great cost when considered across this country, it is a cost

-Jeppesen does not use two sheets of paper, or both sides. This means that the information must be packed on the single sheet. Jeppesen has the option of the larger, folded sheet. However, experience shows that the users simply do not favor these difficult to handle larger sheets.

-Both NOS and Jeppesen are forced into less than desirable positions by providing duplicate and unnecessary textual verbiage. We noted that on both NOS and Jeppesen SID/STARs the information is cramped to get it on one sheet. We believe the transfer of information would be more complete and accurate with a larger and clearer graphic.

Some conclusions were reached at the AOPA meeting. Further improvements could be made to the SID/STAR program as currently constituted. Needed changes require active participation by Air Traffic Control to address ATC facility issues and source production issues. General Counsel most likely will have to provide guidance on regulatory implications of a graphic/ICON ATC clearance. Adequate time does not exist to have a working group meeting prior to the FAA ACF at the end of April.

RECOMMENDATION: ATP 220 invite appropriate air traffic personnel to the next ACF to launch a working group program as appropriate to implement changes to the SID/STAR.

Comment: This is one members best rendition of the minutes of the AOPA meeting. Other members should add, subtract, and correct as appropriate. Attendees follow:

Doug Helton	AOPA Reg-Policy	Ph (301) 695-2215 FAX -2214 doug.helton@AOPA.org
Steve Luchessi	FAA	Ph (202) 267-9304 FAX -5809
Al Marsh	AOPA Pilot Magazine	Ph (301) 695-2358 FAX -2180
John Moore	NOS/AC&C	Ph (301) 713-2631 FAX -4587
Rudy Ruana	Jeppesen	Ph (202) 331-7727 FAX 296-0278
Martin Shuey	AOPA	Ph (301) 695-2209
John Steuernagle	ASF	Ph (301) 695-2172 FAX -2214

Rudy

38. Agenda Item 95-2-68 Redundant Verbiage on SIDs/STARs (Jeppesen)

Mr. Rudy Ruana, Jeppesen, recommended that the ACF determine if the user community would support the elimination of redundant verbiage on SIDs and STARs. The language used in ATC Clearances is written, usually verbatim, on the face of SIDs and STARs and dramatically adds to the clutter, making it difficult to differentiate and single out information. Graphics could depict the same information in an easier to locate and more understandable manner and would reduce clutter at the same time. This recommendation would affect the FAA's SID and STAR Orders and the Form 7100. Mr. John Moore, NOS/AC&C, reported that AC&C had formed a SID/STAR Reformat Study Group to consider changes to the format and data depicted. Mr. Dick Powell, FAA/ATP-220, recommended (and the ACF approved) that an ACF Working Group be formed to develop recommendations for changes to the SIDs and STARs. Mr. Ron Bolton, NOS/AC&C, asked that the Volpe NTSC be asked to participate in this Working Group and provide human factors expertise. Mr. Ruana provided sample SIDs and STARs that included several Jeppesen-proposed format changes. These are at Attachment 3. Mr. Bob Beatty, USAFFSA/XOLA, asked for extra prototypes to use in simulators.

The ACF SID/STAR Reformat Working Group will consist, at a minimum, of members from FAA, NOS/AC&C, DMA, Jeppesen, AOPA, ALPA, ATA, and Volpe. Mr. Rudy Ruana and Mr. John Moore will co-chair the Working Group. Working Group members are at Attachment 4

Action: Mr. Rudy Ruana, Jeppesen and Mr. John Moore, NOS/AC&C will report on the status of the ACF SID/STAR Reformat Working Group recommendations at the next meeting.

ATCH 1

SID/STAR Reformat Working Group Members

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George Lutz	EAA	703-256-7873	Fax:
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Steve Lucchesi	FAA/ATP-220	202-267-9304	Fax: 5809
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Ronald Bolton	NOS/AC&C/ACD	301-713-2836	Fax: 4410
Charles Branch	NOS/AC&C/ACD	301-713-2817	Fax: 4489
Dalia Marin	NOS/AC&C/ACD	301-713-2958	Fax: 4410
John Moore	NOS/AC&C/R&T	301-713-2631	Fax: 4587
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ATCH 2