

SUMMARY REPORT OF COMMITTEE B

Prepared from Session Notes Furnished by:

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Committee Composition: (See Table 4, page 11)

I. General Aviation and Services

- Can military weather information be made available to General Aviation? Since the military role is different from General Aviation, there are limits to the use of its weather information because of operation schedules and budget limitations. For example, military weather recordings are not always available on weekends.
- Weather information provided by Flight Service Stations (FSS) is often not uniform and is too pessimistic. Although winds aloft data are available every 12 hours, there is a problem in timely distribution. There appear to be many complaints about the availability of weather information on the West Coast of the United States. The cause is attributed to lack of communication, upstream reporting stations, and knowledge of the availability of local information. More information is needed on the availability of cloud top heights. Some concern was expressed about whether or not the future AFOS program (Automation of Field Operations and Services within the National Weather Service) will have the right kind of data needed by General Aviation.
- Private pilots need to be more knowledgeable about weather. Student pilots should have some exposure to flying in clouds before being licensed.

- Improvement is needed in providing General Aviation pilots with changes in the weather reporting and forecasting system.
- FAA should develop more "single concept" type training films on weather.

II. Aircraft Design

- There appear to be no standards or specifications for reducing lightning damage. Static discharge system reduces radio noise but not lightning strikes. Not enough information is available to do adequate design. Solid state systems on wide-bodied aircraft are particularly subject to problems from lightning strikes. Composites and fiberglass give problems because of poor electromagnetic shielding--not unsolvable! Additional measurements on aircraft are needed, including characteristics of lightning. It is believed that systems can be protected with reasonable expense if considered at the beginning level. Fuel systems may still be a problem. FAA examiners should consider the lightning danger when certifying fuel tanks so explosions can be avoided. Lightning can also cause compressive stalls on some aircraft. There is a problem in these areas in transferring technology from research to General Aviation manufacturers.

III. Simulation

Concern was expressed for determining the limits and procedures for landing aircraft in wind shear.

- What is the maximum value of wind shear?
- What is the limiting value beyond which a landing should not be attempted?

- Under what conditions does one take out autoland?
- Would more wind information from the aircraft to the ground station contribute to improved shear advisories?

There should be some simulation of various severe shear profiles in training simulators, although there is still a problem in simulating shear conditions using mathematical models and data.

SUMMARY REPORT OF COMMITTEE C

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Committee Composition: (See Table 4, page 11)

Aviation Weather Research- Who really is in charge of this important facet of aviation support? Jack Enders started listing agencies that had a piece of the action in this area and by the time he had gone through twelve (12) different major agencies it was obvious that we were spending an awful lot of money on the subject, but without any sort of direction or hope that the results of this diversified activity would ever be distilled into meaningful aviation weather support for the aviation user community. The who, how and why of what should be done was not discussed because of time restraints, but it is rather obvious some review of the entire area of aviation weather support must be accomplished at a fairly high government level.

Slant Range Visibility- There was full agreement that this should have a high priority for funding and close review by the Federal Government and the aviation users. Speaking from an operators view, I have had many discussions with the Terminal Procedures Committee (TERPS) regarding the "look-see" privilege which allows Part 91 operators to continue approaches even though the reported weather is alleged to be below minimums. ALPA and ATA are in continuous disagreement over the validity and the proper minimums for non-precision approaches. An accurate measurement of slant range visibility could have a major economic impact on the aviation community.

Automatic Aviation Weather Observations-The General Aviation Associations are on record and in agreement on the philosophy of co-location of Flight Service Stations and Air Route Traffic Control Centers. The one major concern we have is the manner and quality of weather observations that will be available when the FSS's close down. We must have no reduction in weather observations-contract weather observations are at best minimum satisfactory. Automated aviation weather sensors should be a high priority subject.

Mass Weather Dissemination- There have been improvements in this area in the last two years. However, a major program is necessary to insure that all available aviation weather parameters are fed into the system, that their flow through the system not be impeded, and that the weather information provided to the pilot be real time. Six hour forecasts are very nice for planning, but the flight crews aloft must be provided with short term updates-we really require "now casts."

Airborne Weather Probes-As part of the aircraft design we should include certain weather probes that are an inherent part of the airframe. Probes similar to the transponder and automatic altitude readout equipment should provide pertinent weather data to the appropriate ground dissemination system without any pilot input.

Pilot Education- We should insure that the Airmans Information Manual (AIM), The Aviation Weather Manual and the Instrument Flying Handbook agree in all important details where they discuss aviation weather. Additionally, the AIM should list a bibliography of required aviation weather publications for the concerned pilot. The entire committee felt that weather training was a weak link in the preparation of our new pilots for

entry into the National Airspace System (NAS). With the continued reduction of eyeball to eyeball briefings and the limited exposure the pilot will have had to various weather charts, the increase in aviation weather education is imperative.

Weather Personnel Problems-With the increasing use of automated observing and forecasting equipment we will have a problem in utilizing trained meteorologists. Some provisions should be incorporated within the ADP structure and the user charge format to insure that we provide on-site weather technicians in areas that constitute rapidly changing and severe weather activities.

Airports- With the limited number of major airports in the NAS, the reduction of capacity of any one due to weather can seriously impact air transportation in this country. In particular, emphasis must be placed on snow prediction-time, amount, duration of fall, including wind direction data for the airport manager so that he can clear the most important wind runway first.

SUMMARY REPORT OF COMMITTEE D

(Manuscript not available for publication)