

Friends / Partners In Aviation Weather (FPAW) 2004 Preliminary List of User Issues

October 4, 2004

The following is the 2004 User Issue List for the FPAW Meeting

Segment 1. Overall Requirements, Product Improvements, and Action Items.

- **New Issue. Does the current financial status of the airlines change their requirements from NWS and FAA regarding aviation weather information?**
- User-Driven Weather Requirements Process, enhanced AWTT meetings. Status Report showing progress on meeting the following user concerns from 2003.
 - Aviation Weather products need to be developed using a systems engineering type approach in which the USERS define WHAT the requirements are for new weather products, rather than the developers telling the users HOW products will look (developers would show users what is possible and present options to them for decision).
 - This process needs to ensure the coordinated development of suites of products to address each weather phenomenon and each category of user.
 - Four years ago, the users asked to be included in the AWTT, but this has not happened. The semi-annual consultative meetings between AWTT and the users and the annual FPAW meetings have proved inadequate for this purpose.
 - A group including FAA, NWS, airlines and GA needs to be created to make recommendations, provide technical input, work on ConUses for all initiatives.

Segment 2. Observations

Major Issues

- PIREPS Improvements of all types: AUTOMET, use of GUI by dispatchers (including regional airlines) to enter PIREPs into WMSCR, Sky Spotter, controller automation for easy input, etc.
- How can Dispatcher use of the GUI be spread to GA? Flight departments and Fractional Ownership operators?
- PIREP accuracy improvement methods?
- Develop a system to consistently pass along verbal PIREPs from ATC to NWS/FSS IAW existing guidance 7110.65 Sec. 6-6-3. This is a repeat request from last 3 years.
- Educate controllers on use of WARP, ASR0/11, ITWS, etc. to consistently provide convective storm information to aircraft not equipped with storm detection systems.
- Don't lose augmentation observations when AFSS's are closed under A-76 process.

New Sensors: Need status report for all.

- Accelerate permanent deployment of a GOES 12 over the US, much earlier than 2012.
- Include volcanic ash sensors and turbulence sensors on GOES 12.
- Do R&D on forward-looking aircraft turbulence sensors.
- Hasten implementation of NASA TAMDAR (automatic PIREPs) to get low altitude water and ice information automatically.

Segment 3. Product Generation

Priority Issues:

- CIP/FIP: complete all actions necessary for operational use by pilots in 2005.
- A-76, establish a priority for fast modernization with graphics.
- Complete GFA/GAMET on schedule.
- Improve Accuracy of short term forecasts, especially of C&V to avoid over forecasting VNR and over-dissemination of warnings.
- Accelerate addition to flight plan tool that shows freezing level and ceilings on vertical profile view, including support for C&V project.

Areas where product improvements are needed. **Need status report for all.**

- GFA and GAMET Status Report
- Enhance GFA with cross-section and flight path tool.
- Increase TAFS from 530 to 3900.
- Improve TAF quality.
- Improved acquisition and dissemination of international weather.
- Transition to many more airport-specific TAFs.
- Wind shear detection systems (especially at lower-tier airports).
- Winter weather observation and forecast systems and other winter weather information.
- NOTAM support.
- Volcanic ash detection on GOES 12.
- Priority-setting for convection forecast improvements by time period.
- Inclusion of industry weather requirements in OEP.
- Improving the utility of CCFP.
- Supporting science for low-TRL products for TFM purposes.
- Deploy NEXRAD-based systems (WARP, ITWS, CIWS, MIAWS).

- What is the FAA (and meteorological community) doing to develop and validate a probabilistic forecast capability for convective weather constraints (hazards) to support TFM decision making in the presence of uncertainty? How much of this work is being conducted in coordination with TFM users and Automation experts to ensure products that will integrate well with DST automation?
- What are the FAA and NASA doing to develop and integrate DST automation (principally TFM tools) with weather products?
- Speed development of RAPT, beta test in CIWS, to provide TFM graphic products.
- Determine what forecast or observation improvements, including dissemination methods, may be necessary to get the full benefits from WAAS approaches.
- Aerodrome-specific TAFs for ATM.
- Not use same TAF for all airports within 50 nm of primary airport.
- What has FAA determined about the use of Human-in-the-forecast-loop vs. human-in-the-monitoring-loop for new weather graphics.
- Status on new guidance that establishes the principles for determining the “primary” product for pilots to use for a weather phenomena for which multiple products exist. Such as the one with the highest overall utility, from both human-in-the-forecast-loop (HIFL) graphics (such as GFAs) and human-in-the-monitoring-loop (HIML) graphics (such as CIP/FIP). Consider using HML graphics for times when update rate is too fast for human forecasters (shortest-term forecasts), or where the models have more skill than humans further (longest-term forecasts).
- Develop the principles for the appropriate use of non-primary products as supplemental products, e.g., HIML may still be viewed when HIFL is primary.
- When the models are determined to be wrong, develop a method of QC to make corrections or bar low-skill products.
- Provide funding and a mechanism for a HIML system for CIP/FIP.

Segment 4. Ground-Based Dissemination/Display

- **A-76 Process Update.**
- **QICP Certification of ADDS and other NWS/FAA Weather sites, to enable use of CIP, FIP, GTG.**
- **ITWS dissemination to airlines over a website for low-cost access.**
- **Standardization or NOTAM formats and distribution to airlines.**

Segment 5. Cockpit-Based Dissemination/Display

Pilot Operational Use Of New Graphics Need Status for all – especially CIP/FIP issues resolution process and schedule to determine if approvable for pilot use.

- The AWRP and NWS programs are not successful until pilots can use the new weather graphics the most important use, is accomplished.
- Products may first be first approved for meteorologist and dispatchers as a Guidance product (without the use of work “only” in the disclaimer), but it must be planned for pilot use in a reasonable time, e.g., CIP/FIP, which is OK for operational use with same notice as NCWF, and we must do the work necessary to address concerns and enable pilot use by April 2003 when FIP is evaluated. AWTT is not adequate for this, nor is FPAW.
- Make it clear that these products are included under “all available information” in 91.103.
- Develop criteria for the approval of new automated products for pilot operational use that may not require comparison to current AIRMETS and SIGMETS; i.e., valid science and safety determination.
- **Expand Pilot use of ADDS through pilot education and wide use of links.**
- **Improve CIP/FIP, making forecasts reasonably accurate up to 6 hours in advance.**

