CURRENT ICING PRODUCT - SEVERITY

OPERATIONAL SUITABILITY EVALUATION

Presented to: FPAW – Icing Panel

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Introduction

- ✈ Objectives
  - Product Development Concepts – overview for understanding
  - General Operational Approach – weather products
  - Current Icing Product (CIP) Evaluation
- ✈ CIP Evaluation Results for Supplementary Use
- ✈ Continuing CIP Evaluation Efforts

Concepts

- ✈ Product Development
  - Technical Acceptance
  - Operational Suitability

- ✈ Technical Acceptance
  - NCAR, AWC – science (algorithms) and verification
  - NWS Operational – supported 24/7 on website

- ✈ Operational Suitability (mature product, science good)
  - Safety Management System (e.g., hazard ID)
  - Opns Suitability Testing vs. Subject Matter Expertise (SME)
    - SME = individual opinion, not formal
    - Opns Suitability Test = formal, structured, many individuals
  - AFS Operational – approval for pilot use

Concepts

- ✈ FAA POLICY (HBAT 05-01 & AIM)
  - Primary Weather Products
  - Supplementary Weather Products
- ✈ Primary Weather Product
  - Meets all regulatory requirements and safety needs for flight-related aviation weather decisions
- ✈ Supplementary Weather Product
  - Used for situational awareness
  - Must be used in conjunction with one or more primary weather products
  - May be restricted

Objectives: OPNS Suitability Eval

- General: new weather products for pilot use -
  - Verify Hazard Log issues
  - Identify any new hazards
  - Roadmap for supplementary use by pilots
  - Preliminary roadmap for primary use by pilots

- Current Icing Product (CIP) Evaluation
  - CIP operational suitable as a Supplementary Product with *no restrictions* for pilot use
  - Identify CIP operational issues for pilot use as Primary Product – develop roadmap

CIP Evaluation

- Evaluate CIP products for supplementary and primary use
  - Severity
  - Probability
  - Severity with probability overlay (25% and 50%)
- Utilize for operational pilot use
  - Preflight
  - In-flight*

* Note: While “In-Flight” use is being examined, the evaluation will not yield data appropriate for approving cockpit use.

CIP Evaluation Results: Supplementary

- Product Usability
  - 94% of pilots agreed that CIP Probability is easy to interpret
  - 94% of pilots agreed that CIP Probability will enhance safety
  - 100% of pilots agreed that CIP Severity is easy to interpret
  - 87% of pilots agreed that CIP Severity with probability masking will enhance safety
  - 100% of pilots agreed that CIP Severity categories are optimal for planning
  - 100% of pilots agreed they would use CIP as a supplementary source for preflight planning
  - 100% of pilots agreed they would use CIP to supplement in-flight strategic and tactical decisions/planning

CIP Evaluation Results: Supplementary

- ✈ Issues
  - In some instances, CIP information was used as forecast information, not solely nowcast
  - Integrated nowcast and forecast information would be useful for flight planning
  - More frequent update rates would be beneficial (e.g., 15 minutes as opposed to hourly)
  - Probability overlays on severity were considered more acceptable when used in conjunction with independent presentations of severity and probability information
  - With practice, pilots would feel more comfortable using the probability overlays on the severity products

Continuing CIP Efforts

- CIP Evaluation for primary use - complete 11/06
- CIP Final Report for (Supplementary & Preliminary Roadmap for Primary) - 12/06

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