

Aeronautical Information Management NOTAM Industry Day

Quality Audit and Customer Outreach

By: Aeronautical Information Management group

Date: November 2008

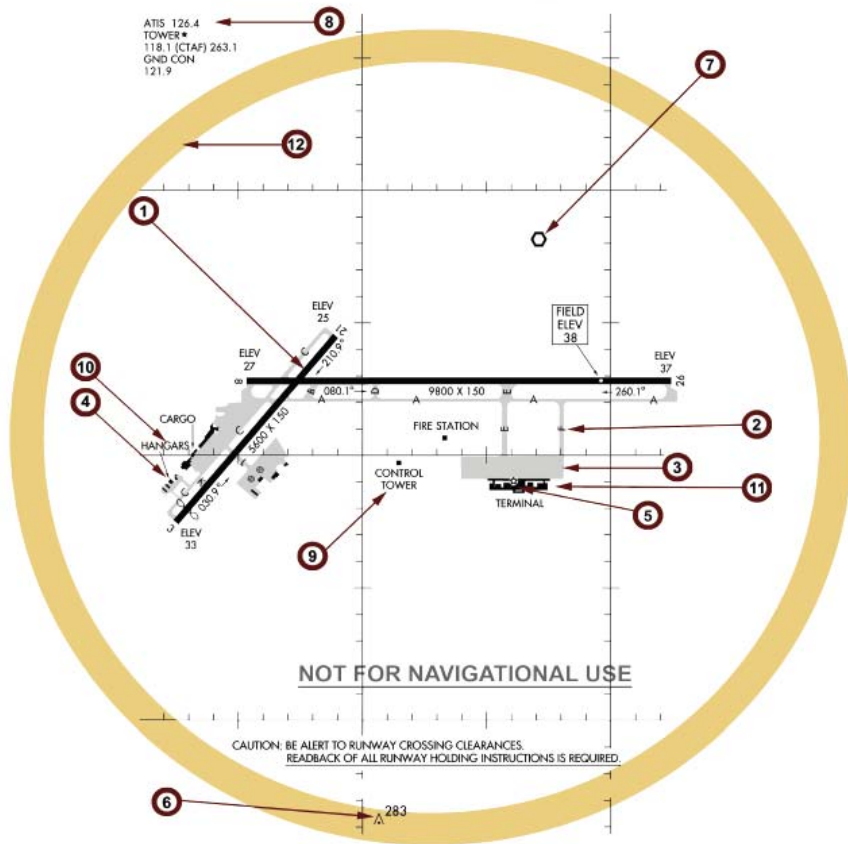


Federal Aviation
Administration



Monday – 28 January 2008 0500 UTC

The “D” NOTAM



Keywords

NOTAM Examples

RWY	1	RWY 3/21 CLSD Runways 3 and 21 are closed to aircraft.
TWY	2	TWY F LGTS OTS Taxiway F lights are out of service.
RAMP	3	RAMP TERMINAL EAST SIDE CONSTRUCTION The ramp in front of the east side of the terminal has ongoing construction.
APRON	4	APRON SW TWY C NEAR HANGARS CLSD The apron near the southwest taxiway C in front of the hangars is closed.
AD	5	AD ABN OTS Aerodrome's airport beacon is out of service
OBST	6	OBST TOWER 283 (246 AGL) 2.2 S LGTS OTS (ASR 1065881) TIL 0707272300 Obstruction. The lights are out of service on a tower that is 283 feet above mean sea level (MSL) or 246 feet above ground level (AGL) 2.2 statute miles south of the field. The FCC antenna structure registration (ASR) number is 1065881. The lights will be returned to service 2300 UTC (Coordinated Universal Time) on July 27, 2007.
NAV	7	NAV VOR OTS Navigation. The VOR located on this airport is out of service.
COM	8	COM ATIS OTS Communications. The Automatic Terminal Information Service (ATIS) is out of service.
SVC	9	SVC TWR 1215-0330 MON-FRI/1430-2300 SAT/1600-0100 SUN TIL 0707300100 Service. The control tower has new operating hours, 1215-0330 UTC Monday Thru Friday, 1430-2300 UTC on Saturday, and 1600-0100 UTC on Sunday until 0100 UTC on July 30, 2007.
	10	SVC FUEL UNAVBL TIL 0707291600 Service. All fuel for this airport is unavailable until July 29, 2007 at 1600 UTC.
	11	SVC CUSTOMS UNAVBL TIL 0708150800 Service. United States Customs service for this airport will not be available until August 15, 2007 at 0800 UTC.
AIRSPACE	12	AIRSPACE AIRSHOW ACFT 5000/BLW 5 NMR AIRPORT AVOIDANCE ADZD WEF 0707152000-0707152200 Airspace. There is an airshow being held at this airport with aircraft flying 5000 feet and below within a 5 nautical mile radius. Avoidance is advised from 2000 UTC on July 15, 2007 until 2200 UTC on July 15, 2007.

NOTE: All "D" NOTAMs will have a keyword at the beginning of the text of each NOTAM
Effective: JAN 2008 thru AUG 2009

FAA ATO AIR/AM #071037



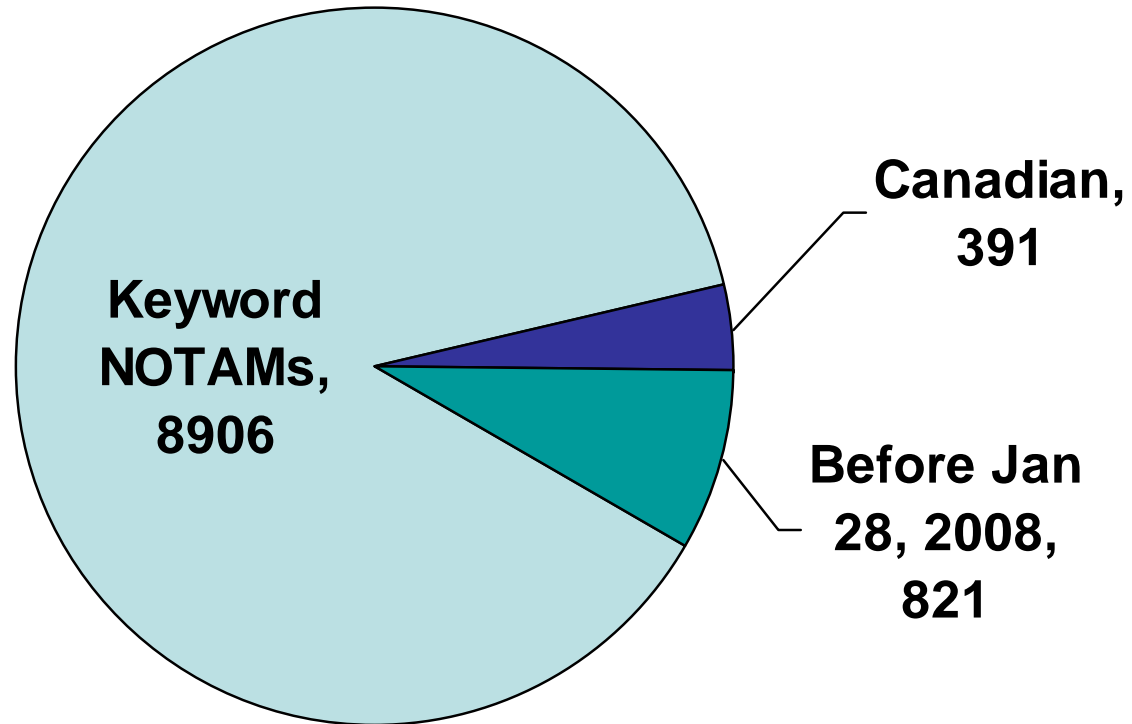
Purpose of quality audit

- **Evaluate January 2008 policy change**
 - Compliance with keywords
 - Systematic issues, confusion, errors
- **Improve accuracy of NOTAMs**
- **Investigate impediments to ICAO compliance**

Team evaluated over 10,000 NOTAM D's

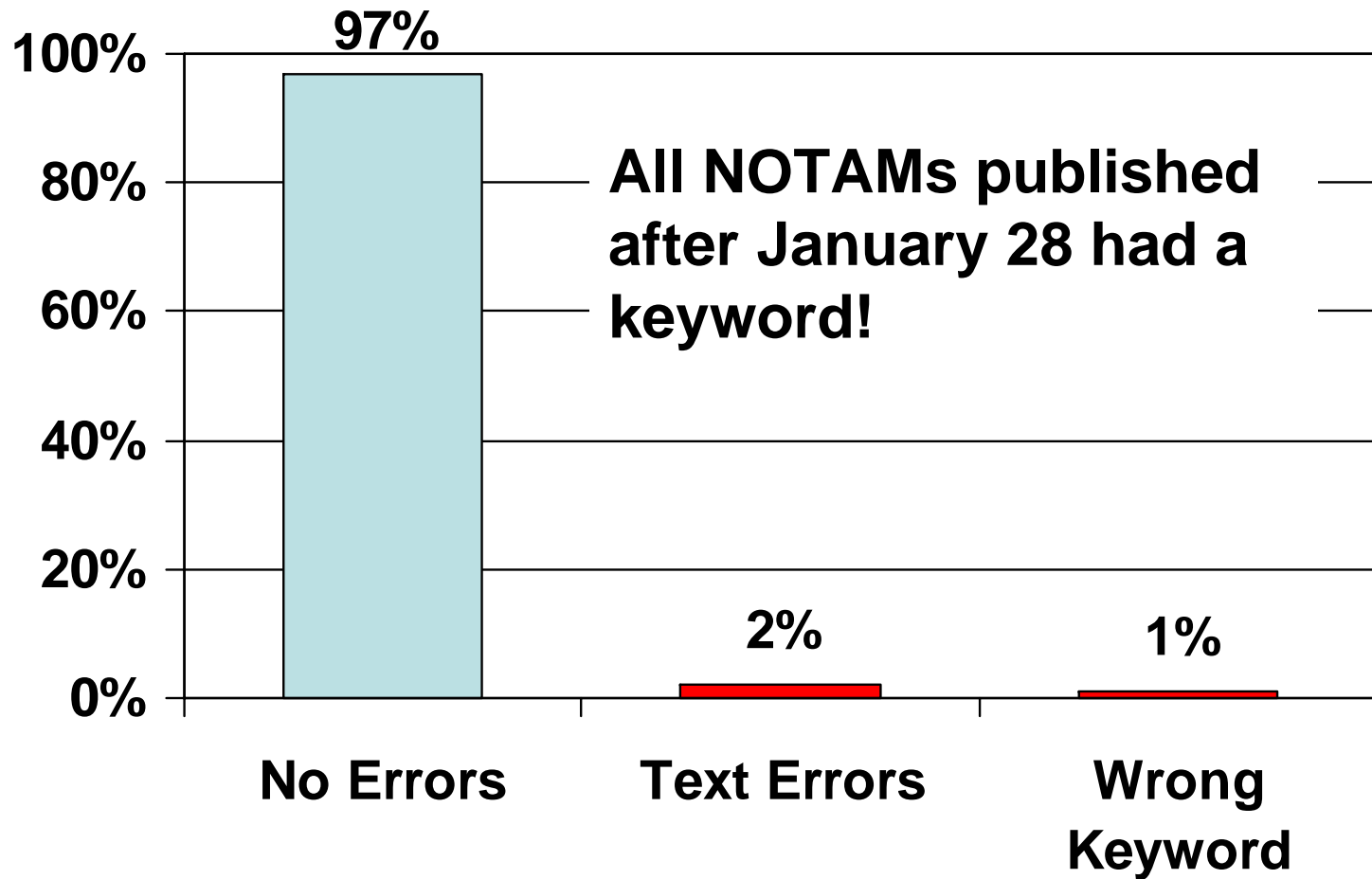


Audit Results



Total of 10118 NOTAM Ds examined

Audit Results

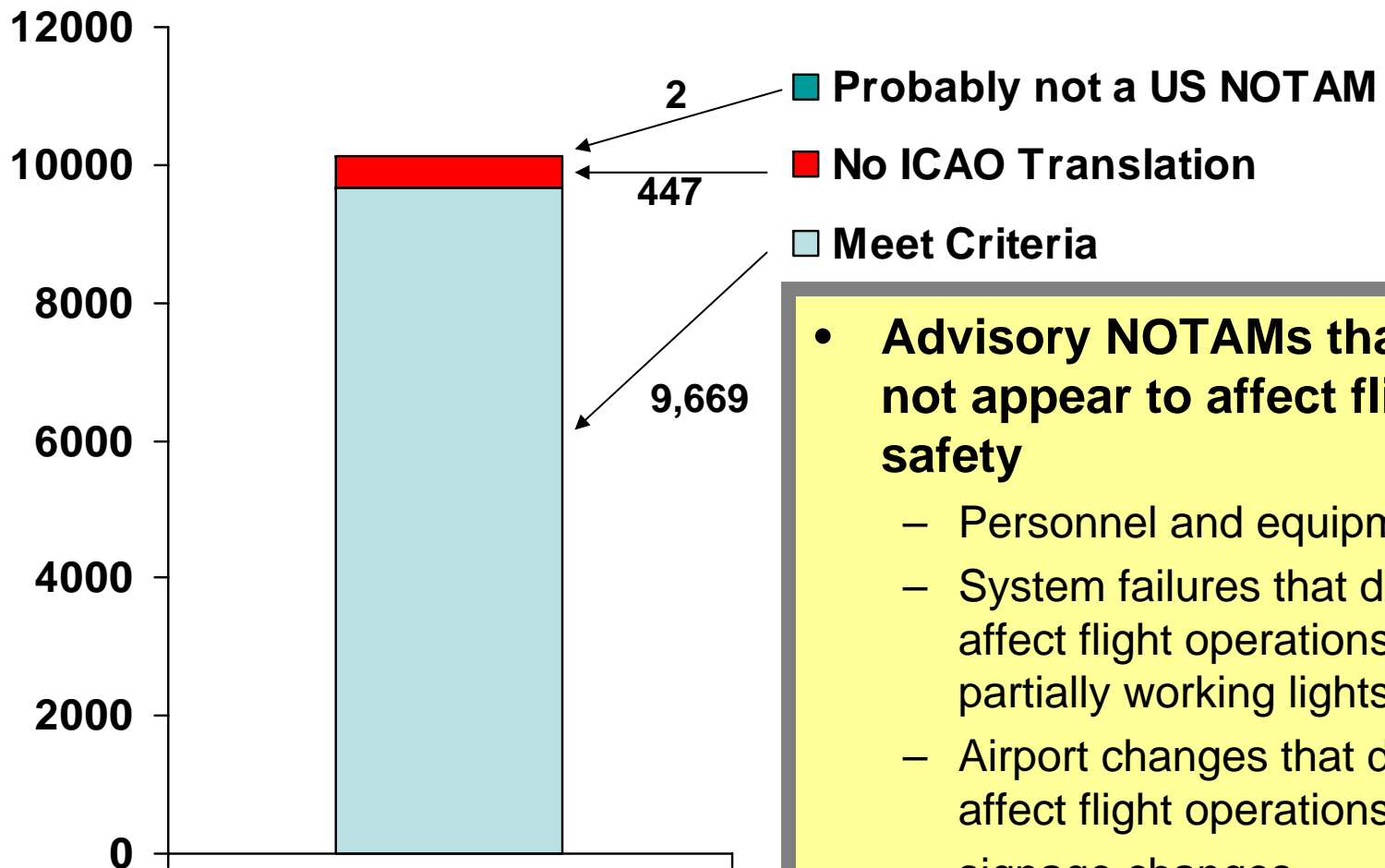


Possible improvements

- **Additional keywords may be necessary**
 - E.g., Landing Aids
- **RAMP and APRON keywords are redundant**
- **Provide more guidance for selecting keywords**
 - Examples
 - Common conditions associated with each keyword



Transition to ICAO



- **Advisory NOTAMs that do not appear to affect flight safety**
 - Personnel and equipment
 - System failures that don't affect flight operations – partially working lights
 - Airport changes that do not affect flight operations
 - signage changes

Audit Conclusions

- **Transition to NOTAM D keywords was successful**
 - 100% compliance
 - 97% of the NOTAM Ds are error free
- **Accuracy could increase with improved keyword guidance**
- **About 4% of existing NOTAM D's would be difficult to translate to ICAO**
 - ICAO NOTAMs are to announce changes that affect flight safety
 - Some NOTAM D's do not affect flight safety



Pilot's Perspective

Customer needs

- **Safety and human factors study**
 - Over 50 pilots
 - Focus on pilots flying for airlines with dispatchers
- **Process analysis, challenges and needs**

NOTAM System Modernization:

The Pilots' Perspective

Report summarizing input from the

Pilot Input to NOTAM System Modernization Working Group

May 2008

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Pilot's Perspective – Process and Use

Customer needs

- **Final decisions about the effect of NOTAM content**
 - Safety assessment and decision to fly ultimately the pilot's responsibility
- **Consequences of NOTAM mistakes personally significant for pilots**
- **Pilots generally have the least amount of time to review NOTAMs compared to dispatchers, briefers, and other NOTAM users**
- **Fewer resources than other NOTAM users**
 - Harder to verify and clarify NOTAM content
- **Pilots generally have least timely information**
 - Relayed through dispatchers, difficult to get automated updates



Pilot's Perspective – Problems

Customer needs

- **NOTAM overload**
 - Many NOTAMs in PIB do not affect the flight
 - NOTAMs are rarely prioritized or sorted
- **NOTAM confusion**
 - Difficult to read
 - NOTAMs with no end date need to be investigated
- **Not timely**
 - Often last to receive NOTAMs
 - Difficult to get new NOTAMs after leaving gate



Pilot's Perspective – Needs

Customer needs

- **Digitize NOTAMs**
 - Enable filtering, sorting and prioritizing
- **Use quality management in NOTAMs**
 - Systematically track and improve quality
- **Enable in-flight NOTAM delivery**
 - Ensure NOTAM compatibility with existing and future datalink systems



Dispatcher's Perspective

Customer needs

- **Airport Field Conditions (FICONS)**
 - Dispatchers from major airlines
- **Process analysis, challenges and needs**

Field Conditions Data:

The Airline Dispatchers' Perspective

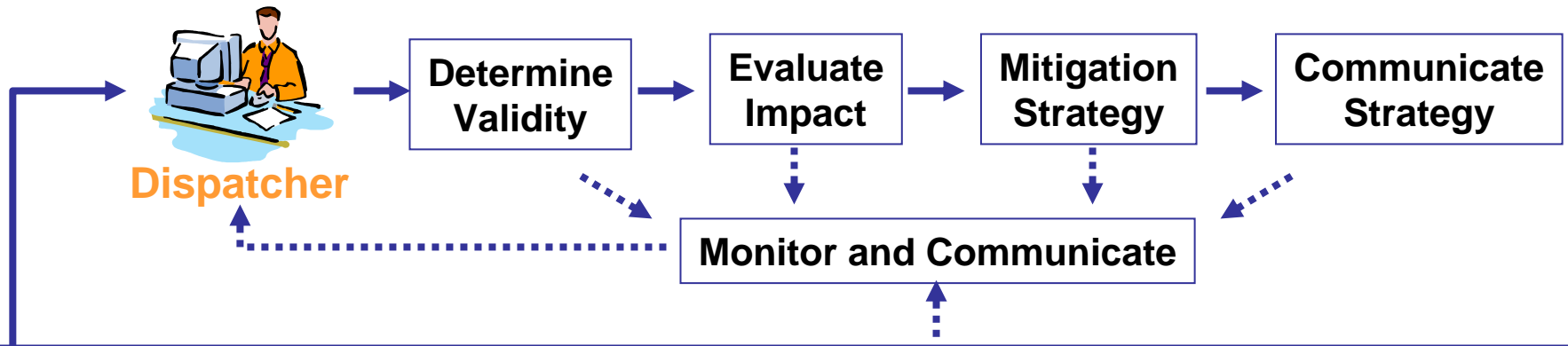
Report summarizing input from the
Dispatch Aviation Safety Action Program (ASAP)
Field Conditions (FICON) Working Group

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Dispatcher's Perspective – Process

Customer needs



Information Sources



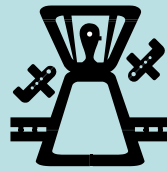
Airline Field Ops



Weather



ATIS



ATC



Pilot



NOTAM



Airport
Authority



NADIN,
ARINC, SITA

Complicated process with many unsynchronized sources of continuously changing information

Dispatcher's Perspective – Problems

Customer needs

- **Lack of standards**
 - Regulatory standards
 - Content standards
 - Reporting standards
- **No accountability**
 - Inconsistent processes for information dissemination
- **No single source of information**
 - Lack of consistency
 - Different time scales



Dispatcher's Perspective – Needs

Customer needs

- **Develop and implement standards and regulations**
 - Standards for collection and dissemination
 - Standards for content and format
- **Develop a single repository of information**
 - Incorporate temporality of the information
 - Provide access to historical information
 - Provide traceability – points of contact for follow-up and clarification



Summary

- **Pilot and Dispatchers needs**
 - Digitize and centralize NOTAMs
 - Enable filtering and sorting
 - Improve compliance and remove messages that aren't NOTAMs
- **Audit results**
 - January 28 policy change is working



Thank you

- **Information on AIM modernization**
 - Nfdc.faa.gov/aimnews
- **Acknowledgment**
 - Pilot and Dispatcher studies completed by Dr. Kelley Krokos of the American Institutes for Research
 - Funded by FAA Human Factors Research Group

