

AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 07-01 – May 2-3, 2007

RECOMMENDATION DOCUMENT

FAA Control # 07-01-197

Subject: Graphic Airport NOTAMs

Background/Discussion:

Industry response to a recent scheduled air carrier accident has brought the dissemination of changes to airport operational data to the forefront of safety awareness in U.S. aviation. This has led to widespread review of related processes used by airport authorities, the FAA, aircraft operators, and flight information providers.

One adaptation that has occurred is the recent issuance of FAA Cert Alert No. 07-01. The document recommends the use of alternate methods to disseminate information about physical changes to runways and airport surface movement areas in graphical form in lieu of the established FAA NOTAM system.

Few would disagree that a graphic illustration of an airport surface environment is superior to a textual description. It is also recognized that the Cert Alert is an attempt to improve the availability and use of temporary airport changes through the use of graphic notices. However, due to its incomplete scope, the Cert Alert document itself has raised many more questions (old and new) amongst the organizations and operators who will be affected.

Reference

FAA Cert Alert No. 07-01 was issued by the FAA Airport Safety & Operations Division in January (attached). The subject was "Need for better dissemination of runway/taxiway closure information and construction on an airport." The purpose was "to encourage the dissemination of better and more detailed information of runway/taxiway closures and construction taking place on an airport." The guidance indicated this should be done graphically as well as textually, and suggested the graphic notices could be made available via email, posting on a website, or hand delivery.

Issues

1. Informal Process: The process encouraged by the Cert Alert is outside the official NOTAM system for dissemination of temporary airport operational data. The guidelines outlined in the Cert Alert document lack a well defined process or control structure for centralized collection, validation, and dissemination. Adherence to the program would be left to individual airport authorities who would utilize a wide variety of formats and systems to independently create then informally distribute graphical information. The lack of oversight or controls will pose problems.

2. Version Control: This is a paramount concern given the dynamic nature of changes in plans typical of airport construction projects. Without an established version controls or a uniform process for disseminating the information to the flying public, to airlines, or to government/commercial flight information providers there is no assurance that all changes will be circulated to all users of a given airport - or that any subsequent modifications to graphic notices already issued would be properly circulated or systematically applied. For example, a graphic notice distributed one day might be modified or cancelled the next. No record would exist as to the original recipients. Widespread use of uncontrolled temporary graphic notices would result in increased numbers of pilots possessing and using different versions of surface information for the same airport. A lack of version control could potentially increase operational problems - for pilots and ATC alike.
3. Passive vs. Active Distribution: Posting the graphical change notices and related data on individual airport websites requires users to “pull” the information instead of having it “pushed” to them. This is a reversal of how flight information flows to operators today. While it might seem like an insignificant change in responsibilities for a general aviation pilot to visit the website for a destination airport as part of pre-flight planning, this presents a real problem to air carriers who must now monitor hundreds or thousands of airports daily for possible change activity then provide the information to affected air crews by means of internal systems. In addition to having potentially hundreds of new websites to check regularly, the responsibility for “flight following” dispatchers would not end with the takeoff, but would require a mechanism of monitoring the website during the flight to become aware of any posted changes. Uncertainty would result if an airport’s website was down or unavailable. The potential implications related to operational requirements, responsibilities, and contingencies have not been addressed.
4. Handling of Graphic Notices: The FAA’s NOTAM system is based on timely transmission of textual information. At the present time NOTAM systems in general (government, military, and commercial) are incapable of incorporating graphical images. Many air carriers have developed sophisticated internal systems for dealing with textual NOTAMS. These systems cannot easily be adapted to handle graphic NOTAMS. For example, an airline may attach a list of textual NOTAMS to a flight plan or other documents printed for a specific flight. These present day ‘legacy’ systems cannot support graphical attachments. This poses the question as to how graphics notices would be provided to flight crews. Forcing more paper on flight crews as part of their flight release package is not desirable. Also, the effect of the proposed system on international (non-U.S.) operators must be considered. International operators are accustomed to a highly functional international NOTAM system. Temporary graphic notices issued for U.S. airports of entry, and alternates, would affect domestic and international air carriers. The whole subject needs to be considered with respect to automated electronic NOTAM and data link systems - domestic and international.
5. Conversion from Graphic to Text: If the graphical information cannot be passed on to the pilot end user, someone has to covert all the pictorial information from the graphic notice into textual form. While it may be easier for the airport authority to convey the changes with a graphic instead of text, this only places

the burden on the airline user to convert the graphic information into textual form for its pilots, without the advantage of having first hand knowledge of what the graphic was intended to portray. Conversion from graphic into text could lead to the introduction of an error during the interpretation and conversion process.

6. Ever-Increasing Volumes of Temporary NOTAM Changes: The addition of temporary graphic notices for airport changes will add to an already large total number of NOTAMs in circulation. Government agencies, flight information providers, and operators are already stretched to limits handling the current volume. Pilots are inundated with NOTAM information. For example, for the entire USA, approximately 2000-3000 NOTAM actions are processed daily (add, change, or cancel). More information, in different forms and formats, may not be the best solution. Thought should be given to long-term solutions that simplify the task rather than introducing a short-term solution that further increases volume and adds complication.

7. Coordination & Compatibility with Airport Charts and Related Publications: Airport diagram charts are provided as part of government or commercial aeronautical publications. They are the primary means by which pilots get essential information about the physical layout and surface features of an airport. Electronic Airport Moving Maps have emerged and are now in use. Chart providers rely on accurate, current source information provided by airport authorities. Flight information is collected, maintained, and distributed by the National Flight Data Center (NFDC). Although the current system for collecting airport-related information could be improved (especially airport surface features) the NFDC provides a centralized and systematic way of managing flight information as original source and updates. The Cert Alert makes no mention of the need for airport authorities to coordinate with the NFDC. In addition to the NFDC, there may be a need for coordination with other branches of the FAA such as the National Flight Procedures branch (AVN) for any runway or surface changes which might affect the usability of instrument procedures. Example: Runway extensions or displacements, renumbering, etc. The coordination and compatibility of airport changes – temporary and permanent - must be addressed. Discussion surrounding the Cert Alert provides an excellent opportunity to review the nationwide system for collecting, validating and disseminating airport information.

Recommendations:

This agenda item is submitted to the Aeronautical Charting Forum for the intended purpose of generating comprehensive discussion, amongst affected groups, leading to a better understanding of the advantages and limitations of the proposed use of graphic notices for temporary airport changes. Hopefully the result will be a set of recommendations, guidelines, or best practices that will address and improve some of the shortcomings in the systems in use today for collecting, validating and disseminating airport related information - both temporary and permanent in nature.

Comments: None.

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Date: April 12, 2007

MEETING 07-01: Mr. Roy Maxwell, Delta Airlines, provided some background information and summarized the information given in the Recommendation Document (07-01-197) and CertAlert 07-01. Delta relies upon the NOTAM system as well as back channel methods to get airport changes. Since their operators and pilots are at these airports they know of airport construction activities and this information is disseminated informally to other operators. The first thing that we need to do is take a look at the NOTAM process we have in place and try and make it work. The second is version control. As we're moving into electronic media, version control is more difficult. The third issue is passive verses active dissemination. Legacy systems are incapable of handling graphics. Getting those airport graphics to a flight crew, either in flight or before a flight is something they will have to address. They need a mechanism of not just pushing information out, but they need a mechanism of getting that information flow into the proper channels and having some compatible system so they can update the source documents. Mr. Maxwell gave his appreciation to the group and expressed his interest in putting together a working group to look at the various issues and get a better information flow that is needed.

Mr. Ted Thompson, Jeppesen, commented that most if not all of the topics listed in RD 07-01-197 apply to the state of airport data in general. If we work through each of these issues we would find a foundation for improving airport source. The fact is that there is no central repository for airport information.

Mr. Moore asked if Mr. Dave Goehler would be willing to work the seven issues within the Airport Source Information working group that Roy Maxwell outlined in the RD. Mr. Goehler replied that he would do what he can although his group may have to do something differently given the fact that the committee has been working for three years with little progress. Mr. Goehler believed that more people in the trade organizations need to get involved.

Mr. Eric Secretan NACO, commented that it doesn't matter whether you have a new NOTAM, an AXIM digital NOTAM or graphical NOTAM system in place, the valid source data is still not getting disseminated, and nobody has the resources to proactively gather that source data.

Responsibility for the issue will be transferred to the Airport Source Information committee led by Mr. Dave Goehler. A sign up sheet will be circulated.

ACTION: Mr. Dave Goehler to report at the next ACF meeting.

MEETING 07-02: Mr. David Goehler, Jeppesen, provided some background information and summarized the results of numerous committee meetings.

Mr. Dave Bennett attended the ACF 07-01 in May. He is aware of the depth of concern about airport source problems. His presence at the last ACF meeting was very helpful and has generated increased awareness, cooperation and progress on several issues being addressed by the subcommittee.

The FAA has indicated it plans to create an Advisory Circular intended to provide guidance to airport authorities and operators about the collection and handling of airport related source information.

The committee has developed a list of ways airports could provide better information, textual and graphical. The committee has also developed a list of important airport related data elements.

The next ASD committee meeting will be in February 2008. In the meantime, Dave will be working with Michael Brown (FAA Airports) on an initial draft version of the Advisory Circular. Target date for completion of the draft AC is year's end, with final signature and issuance in Spring 2008.

Brad Rush raised the issue about the importance of coordinating the timing of publication effective dates of certain types of critical changes, such as runway end coordinates, that affect IFR terminal procedures. Mr. Rush volunteered to participate in future committee meetings.

Ted Thompson, Jeppesen, commented that for inclusion in the AC, the committee's list of airport data elements ought to identify those data elements that are linked to IFR terminal procedures and that need advance notification of change and close coordination with FAA flight procedures (OKC).

(See 07-01-197 for additional information on this issue)

Brad Rush, NFPO, mentioned the database issue and ensuring synchronization. He volunteered to participate on Mr. Goehler's committee.

ACTION: Mr. Dave Goehler to report at the next ACF meeting.

MEETING 08-01: Graphic Airport NOTAMs

The original seven aspects of this issue were transferred at ACF 07-01 to the Airport Source Data Committee led by Mr. Dave Goehler, Jeppesen. See Mr. Goehler's ASD Report at the beginning of these minutes.

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ACTION: Mr. Dave Goehler to report at the next ACF meeting.