



50 F St. NW, Suite 750
Washington, D.C. 20001

T. 202-737-7950
F. 202-273-7951

www.aopa.org

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Mr. Jerry Torres
Manager, US NOTAM Office
Operations and Policy Group (AJR-B11)
Federal Aviation Administration
1575 I St NW
Washington, DC 20005

RE: Request to Evaluate Discontinuing the Notices to Airmen Publication (NTAP)

Dear Mr. Torres,

The Aircraft Owners and Pilots Association (AOPA), the world's largest aviation membership association, has been engaged in various NOTAM modernization initiatives over the past few years to increase the visibility of safety critical NOTAMs and to identify those NOTAMs that should otherwise be communicated to users via another means such as charting. The increasing number of NOTAMs pertinent to even a short General Aviation flight can be overwhelming. There were approximately 1.8 million NOTAMs issued in 2015 with that total number growing each year. The ramifications of a pilot missing a critical NOTAM can be severe. AOPA believes the Notices to Airmen Publication (NTAP) is contributing to the unsafe condition of pilots missing NOTAMs and we believe this publication's purpose and value must be reviewed.

The NTAP is one of those historical methods of communicating critical information that has not yet been charted, primarily permanent NOTAMs. This publication, largely unchanged for decades, has been proven to have limited value and visibility to General Aviation pilots given the technology being employed in the modern National Airspace System (NAS). The NTAP contains operationally significant information; however, the format the FAA provides it in limits a user's ability to ascertain the pertinent information, which raises safety concerns. To improve the visibility of the valuable information contained within the NTAP and to further our mutual goals of a safe NAS, AOPA requests the FAA evaluate the NTAP jointly with industry to determine its value as a sole source of NOTAMs and aeronautical information, and to determine if this document should be discontinued.

Industry Consensus that NTAP Needs Evaluation

Several different committees with FAA and industry participation have noted the deficiencies of the NTAP. The RTCA Tactical Operations Committee (TOC) recently delivered the *Improving Graphical Temporary Flight Restrictions in the National Airspace System* consensus recommendations to the FAA. Recommendation 24 documented the poor utility of the NTAP and noted the safety concerns of pilots. This recommendation stated the information in the NTAP should be provided entirely on NOTAM Search and the NTAP should be evaluated to determine if it is acceptable to be discontinued. The committee participants all agreed the NTAP format was impacting information getting to pilots.

In early 2016, AOPA submitted to the Aeronautical Charting Forum (ACF) a recommendation regarding Cold Temperature Restricted Airport (CTRA) Standard Instrument Approach Procedure Segment Depiction (ACF-CG RD 16-01-302). Much of the discussion at the forum centered on the need for CTRA to have a permanent procedure so that the instructions to pilots could be removed from the NTAP and placed in the Aeronautical Information Manual (AIM). There was consensus among industry that the NTAP is a poor place to house this information as the NTAP is not frequently referenced by pilots and it is rarely checked for changes on the established 28-day cycle. AOPA's recommendation was centered on removing the need for CTRA information to be published in the NTAP as it could either be on the chart or in the AIM. This proposal was accepted and is now being implemented by the FAA, allowing us to move closer to the CTRA procedure no longer being in the NTAP.

The visibility of critical NOTAMs is also being addressed in two FY17 ATO Top 5 NOTAM Corrective Action Plans (CAP). The CAP addressing NOTAM prioritization and filtering states there is a need to "perform an assessment to determine existing processes for incorporation of NOTAM information into permanent publications and subsequent cancellation and provide the gap analysis report." AOPA strongly supports this recommendation and believes the NTAP, as a default storage location for certain information, must also be reviewed to ensure it is contributing to the CAP's goal. Another CAP addresses NOTAM issuance and cancellation with one of the recommendations noting there is a need to "promote the importance of proper NOTAM issuance." The NTAP would be the home to many permanent NOTAMs so we believe this publication must be addressed as part of this consensus recommendation. As the work on these CAPs proceed, the FAA must include General Aviation representation in the effort to ensure the determined solution will be successful.

Pilot Confusion Regarding NOTAM Resources

In a review of the January 5, 2017, NTAP, one can find scores of FDC NOTAMs applicable to routes and procedures that are no longer authorized or that have changes to approved altitudes. These are safety critical NOTAMs for pilots that should be reviewed prior to any IFR flight. As Flight Service specialists will not review NOTAMs published in the NTAP when providing a briefing over the phone, unless specifically asked, it is likely many pilots fail to obtain this important information. The lack of prompt by the Flight Service specialist contributes to the misunderstanding by many pilots that the briefing by the specialist will cover all pertinent NOTAMs.

AOPA believes the availability of NOTAMs found in the NTAP on NOTAM Search, while highly desirable, is contributing to pilot confusion regarding what is and what is not being briefed by the Flight Service specialist. Prior to the FAA's online NOTAM websites, pilots would not see NTAP NOTAMs unless they personally looked in the NTAP document or explicitly asked the specialist to brief those NOTAMs. There is growing confusion among pilots due to the false assumption that the NOTAMs they find on NOTAM Search will be what a specialist will brief. This misunderstanding is raising the question for many pilots of why Flight Service specialists are failing to brief the NOTAMs that the pilot is able to view on their computer.

In a call with Leidos Flight Service on January 27th, an abbreviated briefing was requested for San Luis County Regional Airport (SBP) seeking only NOTAMs. The specialist first reviewed the NOTAMs not in the NTAP, a total of two, and then, at my additional request, reviewed the other

eight NOTAMs in the NTAP. All ten NOTAMs were visible to users on NOTAM Search, DINS NOTAMs, and PilotWeb with no differentiation of whether they are or are not in the NTAP. Several of the NOTAMs in the NTAP noted a change in the required climb gradient in order to safely fly the standard instrument departure procedures – critical information. Notably, Flight Service specialists do not inform pilots that NOTAMs exist for that airport in the NTAP allowing critical information to easily be overlooked by a pilot who must be concerned with many other aspects of a flight and could forget to ask. It is also easy for a Flight Service specialist to fail to brief NOTAMs published in the NTAP for airways, due to the confusing layout, even though they may be requested by the pilot.

The availability of NOTAMs published in the NTAP on FAA NOTAM websites is having the unintended consequence of letting pilots think that they do not need to check the NTAP as all the NOTAMs should be visible on NOTAM Search. This is incorrect and is increasing the unsafe condition of important information being missed by pilots. For example, the charting NOTAMs listed in the NTAP Part 1, Section 3, are not all available on NOTAM Search. This charting information is critical for pilots to see given it is not yet published in the Aeronautical Chart Bulletins section of the Chart Supplement. These NOTAMs may be the only way for a pilot to become aware of a serious safety condition.

The lack of utilization of the NTAP by pilots, despite the FAA's reliance on it for the publication of important information, is largely because of how the FAA references it. The NTAP is referenced with the vague title of "Published NOTAMs" and posted on the "external links" or "aeronautical information" tab of FAA NOTAM websites. Accessing it requires navigating several menus. Rather than being integrated with NOTAM resources, the NTAP appears to be deliberately kept separate and poorly advertised.

Reported Safety Concerns

The NTAP is an obscure resource that is not a regular flight planning document for many pilots which has caused operational and safety impacts on actual flights. AOPA believes the solution must be to integrate the important information found within the NTAP into those resources that pilots do utilize, such as NOTAM Search, and not to continue segregating information into various places. Below is one NASA Aviation Safety Reporting System (ASRS) report filed by a General Aviation pilot who failed to check the NTAP and became flustered due to unusual instructions from Air Traffic Control (ATC).

I checked NOTAMs on DUATS before my flight yesterday. There was no NOTAM listed saying that the Annual Fly-In Procedures were in effect. Therefore, I was surprised when Approach Control directed me toward the lake after being cleared for the visual approach shortly before noon. I figured I'd screwed up and missed the Annual Fly-In Arrival Procedure NOTAM, assuming that the fly-in arrival procedures didn't take effect until the next day, when the fly-in starts, which is how I recall it working previous years...I was embarrassed and got flustered and managed not to change to the right radio to talk to the Tower. There was a bit more confusion when I talked to the Tower, as I assumed they knew I wasn't familiar with the arrival procedure...Later I confirmed that indeed the DUATS briefing system does NOT include a NOTAM stating that the Annual Fly-In Procedure was in effect. I called Flight Service to ask about this and the specialist told me that because the Annual Fly-

In Arrival Procedure was published in the printed NTAP Notice to Airman Publication it was removed from the NOTAM system. When I suggested this might not be in the best interest of safety, since pilots expect complete briefings from Flight Service or DUATS, he replied "it had always been done this way". I'm an ATP rated pilot and was under the impression that I could get current NOTAM's from Flight Service or DUATS. I hope this was a mistake on the FAA's part and that in the future one will be able to get a complete flight briefing, including all relevant NOTAM's, using DUATS or Flight Service, and that each pilot will not have to review the printed NTAP document. (ACN 940866)

Another ASRS report from a General Aviation pilot indicates confusion on what NOTAMs will be verbally briefed to pilots and how to access information for Special Use Airspace (SUA). Certain SUA may prohibit normal operations, such as temporary Restricted Areas, and these can be published in the NTAP without being published on any aeronautical chart.

Preflight planning was accomplished using vendor weather info. I checked the NTAP for NOTAMs in NC, VA, WV, and PA, since there are no indications of state lines on low enroute charts, and no indication of the MD/WV borders on the Washington sectional in the vicinity of ZZZ. Special notices were also checked. TFR's for the area were not found...A call was placed to the FSS for a standard weather briefing. The weather briefer said there were 'no NOTAMs'...departure was VFR with intention to pick up the flight plan before VOR and GPS indicated we were on the airway. Approach informed us to fly 180 immediately because we were 2 miles inside the prohibited area. We complied with ATC instructions and then the flight was cleared with rerouting...NTAP is predicated on states and therefore MD NOTAMs were not adequately checked...FSS briefers never indicated any NOTAMs and this continued to the false sense of confidence. (ACN 539063)

In the first ASRS report, the pilot became flustered which can result in missing checklist items, distraction, and possibly loss of control. In the second case, the pilot was met by the sheriff after landing and could have faced FAA enforcement action. Both pilots had attempted to access all pertinent information to their flight but, because of the NTAPs lack of visibility, they missed key information. Aircraft accidents have occurred because of a pilot's lack of awareness of a NOTAM.

Pilots report they do not consult the NTAP because of its poor user interface and the belief that it does not contain important information. For example, AOPA has been working with Memphis ARTCC to improve the visibility of arrival procedures to University-Oxford Airport (UOX), located near the University of Mississippi, as it is the only airport at a top-25 school that does not have a TRACON working the airspace. This puts a tremendous amount of workload on Memphis ARTCC during game days. For the 2016 football season, Memphis ARTCC published the UOX arrival and departure procedure in the NTAP with a pointer NOTAM for UOX. Memphis ARTCC informed AOPA after the football season that it was rare a pilot knew the procedure because they did not check the NTAP or they could not find the notice. Memphis ARTCC is exploring other opportunities for outreach outside of the NTAP given it was not effective. Pilots and controllers need an effective method to communicate information so that the NAS is efficient and safe for all.

NTAP Format Obstructing NOTAMs in the Cockpit and Third Party Innovation

In 2016, AOPA and the FAA conducted a series of surveys to better understand how pilots utilize Flight Service and access critical flight information. We learned over 80% of General Aviation pilots routinely use an Electronic Flight Bag (EFB) in the cockpit. Most modern EFBs can display NOTAM information and can continuously update while inflight. Many pilots are embracing the FAA's FIS-B service which facilitates near real-time NOTAM information in the cockpit and can augment or, in some cases, replace Flight Service for pilots. The utilization of these services is growing as more pilots embrace technology and rely less on Flight Service. Therefore, it is important that the communication of that information is effective and usable by the many pilots flying with advanced technology.

As more pilots embrace EFBs, the expectation is that the information being provided to them is complete. Most, but not all, NOTAMs published in the NTAP are being uplinked by FIS-B to pilots while inflight. This issue is similar to the misunderstanding pilots have with NTAP NOTAMs being visible on NOTAM Search as they believe the NTAP may no longer be a necessary resource. The PDF format of the NTAP creates several issues when trying to access NOTAMs for route changes while inflight such as due to a diversion. Pilots rarely reference the NTAP while inflight but the NOTAMs contained within, which are not always uplinked to pilots via FIS-B, contain operationally significant information.

The NTAP has considerable technical limitations that inhibits the information it contains to be properly accessed by EFBs or automation. The publication lacks a user-friendly approach or organization that leads to pilots checking it for only specific information, such as procedures for the Super Bowl, and no definitive way of searching it to ensure all pertinent notices are found for their route of flight. The PDF format limits innovation and prevents third party vendor automation from easily parsing the lengthy document. In fact, no sorting or filtering is provided with the NTAP, contrary to the goals of the 2012 Pilot's Bill of Rights. Pilots must use the CTRL+F document search function to query the publication, which is regularly over 600 pages, and to do so means the pilot must know what they are looking for. Searching using the wrong keyword could mean important information is overlooked. It is not realistic for a pilot to use CTRL+F to search every airway they may need to fly on a cross-country flight to ensure they are not missing any NOTAM. Pilots need clear guidance of what is or is not in the NTAP so that they do not need to be concerned that they are missing something.

Some of the information contained within the NTAP is not searchable, particularly the graphic notices. Enhancing the notices found within the publication so that they can be ingestible by automation would allow much better search and identification functions. Due to the publication's deficiencies, most third party vendors simply provide the PDF to pilots with no way of separating pertinent NTAP NOTAMs.

NTAP Must Be Evaluated

The FAA and industry must work together to address the confusion among pilots caused by the NTAP. AOPA contends the technology utilized by the majority of General Aviation pilots allows the valuable information in the NTAP to be provided via other avenues that would improve the

transmission of that information. As AOPA stated in our comments to the ATO Top 5 effort, we believe the FAA should incorporate all notices, advisories, and other information that is currently provided in the NTAP into the NOTAM Search website.

The NOTAM Search website would need to be enhanced in order to accommodate the inclusion of additional information. Most graphic notices can be associated with a specific airport identifier; however, in order to provide those notices that are applicable to a larger geographic area and not associated with a specific airport identifier, NOTAM Search should have a new tab developed to include other information pertinent to flight operations. Making this information available in an intuitive manner, such that a pilot planning a cross-country flight would be able to view it, is important to improving the visibility of this information. One example of this information is CTRA procedures which are pertinent to more than one airport. Another example of information that the FAA should post to this new tab is the GPS interference flight advisories, which is information based on a NOTAM. These advisories are currently only provided on the FAA Safety Team webpage which is another resource not commonly checked by pilots during preflight planning.

The FAA should also review the notices published in the NTAP as many are no longer necessary given the information is published permanently in other guidance, such as the Precision Object Free Zone information is in the AIM. Some of the notices should be transitioned to Letters to Airmen, such as the LAHSO operations at Bradley International Airport, as they do not make sense to be retained in the NTAP or in any other NOTAM format.

Another consideration is the 28-day cycle would no longer be relevant if the FAA was to transition to hosting the information online in real-time on NOTAM Search. There would no longer be a concern for important information failing to make the publication cycle and thus impact or delay the visibility of critical information, including temporary SUA. The FAA should embrace this modern online interface and cease the disjointed and archaic method of publishing information in multiple places. Consolidating the information will assist with increasing its visibility for pilots, and reduce cost and workload for the agency. Notably, the Association understands the NTAP's development each cycle is still largely a manually intensive process, which likely contributes to the publications lack of innovation over the decades.

As part of the FAA and industry evaluation, we believe inclusion of many stakeholders is important given the large number of NTAP customers. The military relies on the NTAP for publication of dozens of temporary SUA annually. Flight Service would need to be included in the decision making as the removal of the NTAP could impact the workload of Flight Service specialists unless new guidance was provided that detailed what is not necessary to brief to pilots. This work group would also look at the best format for the data as many vendors previously found the HTML format of the NTAP useful but this needs to be validated. Finally, this is an opportunity to look at other NOTAMs and guidance, such as Altitude Reservations, and international NOTAMs and procedures, to determine the best method to provide this information to pilots.

Conclusion

The FAA, in coordination with industry, should evaluate the discontinuation of the NTAP given this publication's poor user-friendliness and its negative impact on a pilot's ability to stay apprised of flight critical information. The information found within this publication that is of value to pilots should be made better accessible. With the availability of NOTAM Search, there is no need to publish permanent NOTAMs elsewhere and continuing to do so will likely contribute to further pilot and controller confusion.

Given the ever increasing number of NOTAMs being published in the NAS, AOPA believes the FAA's NOTAM initiatives that are underway, such as the ATO Top 5, must address the concerns we have raised regarding the NTAP. We believe the improvement or discontinuation of the NTAP is necessary for the FAA to accomplish the goals set forth in the 2012 Pilot's Bill of Rights, and that this is an important opportunity to initiate action to address the safety concerns being raised in the NAS.

Thank you in advance for your support and we welcome the opportunity to provide additional information and input. We appreciate your continuing efforts to improve the safety and operational efficiency of the NAS. Please feel free to contact me at 202-509-9515 if you have any questions.

Sincerely,



Rune Duke
Director, Airspace and Air Traffic

The Aircraft Owners and Pilots Association (AOPA) is a not-for-profit individual membership organization of General Aviation Pilots and Aircraft Owners. AOPA's mission is to effectively serve the interests of its members and establish, maintain and articulate positions of leadership to promote the economy, safety, utility and popularity of flight in General Aviation aircraft. Representing two thirds of all pilots in the United States, AOPA is the largest civil aviation organization in the world.