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Kelsey Shields
Top 5 Program Coordinator
Safety Performance Monitoring, AJI-313
Federal Aviation Administration
950 L'Enfant Plaza
Washington, DC 20024

Re: FY17 Top 5: NOTAM Issuance/Cancelation Corrective Action Plan (CAP) Development Panel

Dear Ms. Shields,

The Aircraft Owners and Pilots Association (AOPA), the world's largest aviation membership association, submit the following comments in response to the FY17 Top 5: NOTAM Issuance/Cancelation Corrective Action Plan (CAP) Development Panel scheduled for October 25-27. This panel will be discussing important issues that we see great value in being addressed. As AOPA is unable to attend, we request the hazards identified below be discussed by the panel, mitigated, and assigned a hazard level as they relate to the National Airspace System.

Visibility of NAVAID NOTAMs

There have been several situations where the primary NAVAID for a VOR Instrument Approach Procedure (IAP) has been NOTAMed as decommissioned or out of service but the NOTAM was not presented to the pilot. The lack of visibility of the NOTAM results in the pilot making preflight and inflight decisions based on the misunderstanding that the NAVAID and the IAP are available. The pilot may be told of the IAP's unavailability by air traffic control only when very close to the destination which can result in the pilot needing to divert should the airport not have another IAP and the weather not allowing a visual arrival.

The NOTAM visibility problem is the result of certain off-airport or on-airports NAVAIDs having a different identifier than the airport the IAP is established for. For example, in October 2015, the Tullahoma VOR (UXM) was NOTAMed as out of service; however, pilots would not enter the NAVAID identifier when doing their NOTAM search. Pilots search the destination airport, in this case Tullahoma Airport (THA). The VOR approach into THA is based on UXM and would thus not be available due to the VOR being out of service. Searching for NOTAMs for THA would not pull up the UXM NOTAM indicating the NAVAID was out of service. The lack of visibility of this NOTAM resulted in several pilots expecting the VOR IAP into THA but being told inflight that it was unavailable.

When AOPA brought this to the attention of the NOTAM office, we were told they were unable to issue a NOTAM for the THA VOR IAP being unusable because their guidance is to only issue a NOTAM for the governing NAVAID. The NOTAM office understood the issue of different identifiers but same name; however, were not able to issue an additional NOTAM. The fact that a pointer NOTAM for UXM was not provided when searching for THA was per FAA policy.

AOPA worked with Memphis ARTCC (ZME) and the FAA Service Center to get a NOTAM issued (October 2, 2015; THA 10/031). Per the Operations Support Specialist from ZME, "from the ATC side, we would love to have every NOTAM that effects any procedure to an airport be listed when a search is made for NOTAMs at that identifier. It only would make the system safer."

In April 2016, the Graham VORTAC (GHM) was NOTAMed as unavailable. GHM is the governing NAVAID for a VOR IAP into Dickson Airport (M02). Searching NOTAMs for M02 would not pull up the GHM VOR being unavailable. Notably, there was one NOTAM for the VOR IAP published for M02 that stated the VOR IAP was not authorized at night. That NOTAM gave pilots the impression the IAP was available during the day as there was no NOTAM stating the VOR IAP was not authorized or that GHM was unavailable (when searching for M02).

An additional issue was found when using the Flight Path search function of NOTAM Search to find the GHM NOTAM. A pilot would not see the GHM NOTAM depending on their route of flight to M02. With the flight path buffer doubled from the preset of 4 NM, a pilot will get the enroute GHM NOTAM if overflying the VOR; however, arriving M02 from the north, and thus not overflying GHM, a pilot would not be provided the NOTAM. This presents one more issue for pilots obtaining all pertinent information for their flight.

Pilots are not taught to check for NOTAMs for each individual NAVAID along their route of flight. Given how many NAVAIDs may be applicable to an enroute flight, it is not reasonable to expect a pilot to check for NOTAMs for every unique NAVAID. The NAVAID NOTAM issue identified above is unique so will catch many pilots off guard. This will become a much bigger issue as the VOR Minimum Operational Network initiates the shutdown and decommissioning of over 300 VORs over the next 10 years and a larger number of NAVAID NOTAMs enter the system.

There is a solution already available for this issue but rarely, if ever, utilized for non-international airports. The FAA can link a NAVAID with an airport. For example, the Nottingham VOR (OTT) NOTAMs will appear when searching Ronald Reagan Washington National Airport (DCA). AOPA recommends the FAA initiate an effort to identify NAVAIDs that have a dissimilar three letter identifier to the applicable airport where a dependent VOR IAP is published and to then link the airport's and NAVAID's NOTAMs together.

Notices to Airmen Publication (NTAP)

The FAA should incorporate all notices, advisories, and other information that is currently provided in the NTAP into the NOTAM Search website. Pilots do not regularly check the NTAP and important information is being missed. The current format of the NTAP is pdf which does not allow automation from third party vendors to easily parse the lengthy document. Pilots are forced to use the ctrl+f search function to find what they are looking for in the nearly 600-page document that changes every 28 days.

The NOTAM Search site should have a new tab developed to include other information pertinent to flight operations. One example of this information is Cold Temperature Restricted Airport procedures, which are included in the NTAP, but 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 FAAST webpage which is another resource not commonly checked by pilots during preflight planning.

The FAA should sunset the NTAP given its lack of visibility and utility to pilots to stay apprised of flight critical information. The information contained within this publication is of high relevance and value to pilots so should be made more accessible.

Unmanned Aircraft System (UAS) NOTAMs

It is difficult for pilots to discern how they would be able to contact the UAS operator from the information currently published in NOTAMs given the limited information being provided. It is challenging for pilots to be sure which frequency a UAS operator is on unless it is published. There are many examples of an operator's Certificate of Authorization (COA) requiring the UAS operator to make periodic radio transmissions or to monitor a frequency for traffic awareness; however, their UAS NOTAM does not specify the frequency the remote pilot will utilize to comply with that requirement.

The failure to detail which frequency the UAS operator will be on can be confusing to pilots should multiple airports be in the area. According to paragraph 7-5-5 (c) of the Aeronautical Information Manual (AIM), "pilots of manned aircraft are advised to follow normal operating procedures and are urged to monitor the CTAF for any potential UAS activity." It is difficult to follow this guidance if the specific frequency the remote pilot is using is not published in the NOTAM. The pilots are the ones who would benefit from the UAS operators transmissions so it is important that these pilots know what frequency to be listening to. For higher altitude UAS operations (above 400' AGL) or for those that cover considerable distance, it may be beneficial to list an air traffic frequency instead of a CTAF.

NOTAM policy should require a frequency be provided for UAS NOTAMs. Please see Appendix 1 for examples of UAS NOTAMs and communication issues. Operators who routinely conduct activities near or in a COA who would benefit from a greater ability to communicate and deconflict include: aerial applicators, low altitude helicopter operators, power line inspectors, and aerial tree trimming workers.

Failure to Chart NAVAID Shutdown Status

Many NOTAMs are published that indicate a permanent decommissioning or out of service NAVAID; however, the FAA fails to take the step of indicating on aeronautical charts the intermediate phase (prior to removal from the chart which occurs when decommissioning) of shutdown status of the NAVAID. A shutdown NAVAID is charted with crosshatches covering the frequency.

Charting shutdown NAVAIDs with the crosshatches is an effective way to tell pilots that they shouldn't plan on that NAVAID being available when they are flight planning. Charting has been shown to be the most effective way of providing information to pilots; NOTAMs are routinely missed - especially long-term NOTAMs. Please see Appendix 2 for a list of NOTAMs issued for NAVAIDs that are not appropriately charted as shutdown.

A NAVAID that exemplifies this issue is the Lansing VORTAC (LAN) which has been out of service since 9/20/2010 – over six years. AOPA coordinated with the applicable Service Center and the Aeronautical Information Service to have the NASR entry correctly updated to indicate shutdown status (charted as shutdown in next cycle). Correctly charting the NAVAID's operational status allows a NOTAM to be removed, increased visibility of the NAVAID's unavailability for pilots not using RNAV, and an instant indication that the NAVAID is only usable as an RNAV fix. AOPA recommends the FAA correctly chart the provided list of NAVAIDs and ensure there is a process implemented to prevent this systemic issue from repeating.

NOTAM Manager and Graphically Depicting NOTAMs

AOPA fully supports and encourages airports to utilize the NOTAM Manager submission tool. This tool has value for pilots as it facilitates a streamlined process for NOTAM entry, thus limiting the delay of communicating flight critical information, and it allows greater availability of digital and georeferenced

NOTAMs. Digital and georeferenced NOTAMs allow the capability of graphically depicting NOTAMs, such as showing a taxiway closure visually on the airfield diagram. The FAA should strive to make graphical depictions of NOTAMs available as part of this Top 5 effort.

Conclusion

AOPA believes addressing the NOTAM issues described above are critical to ensuring safe operations for all aviators. Thank you for reviewing our comments on this important issue and we look forward to participating as this effort progresses. Please feel free to contact me at 202-509-9515 if you have any questions.

Sincerely,

Rune Duke
Director, Airspace and Air Traffic

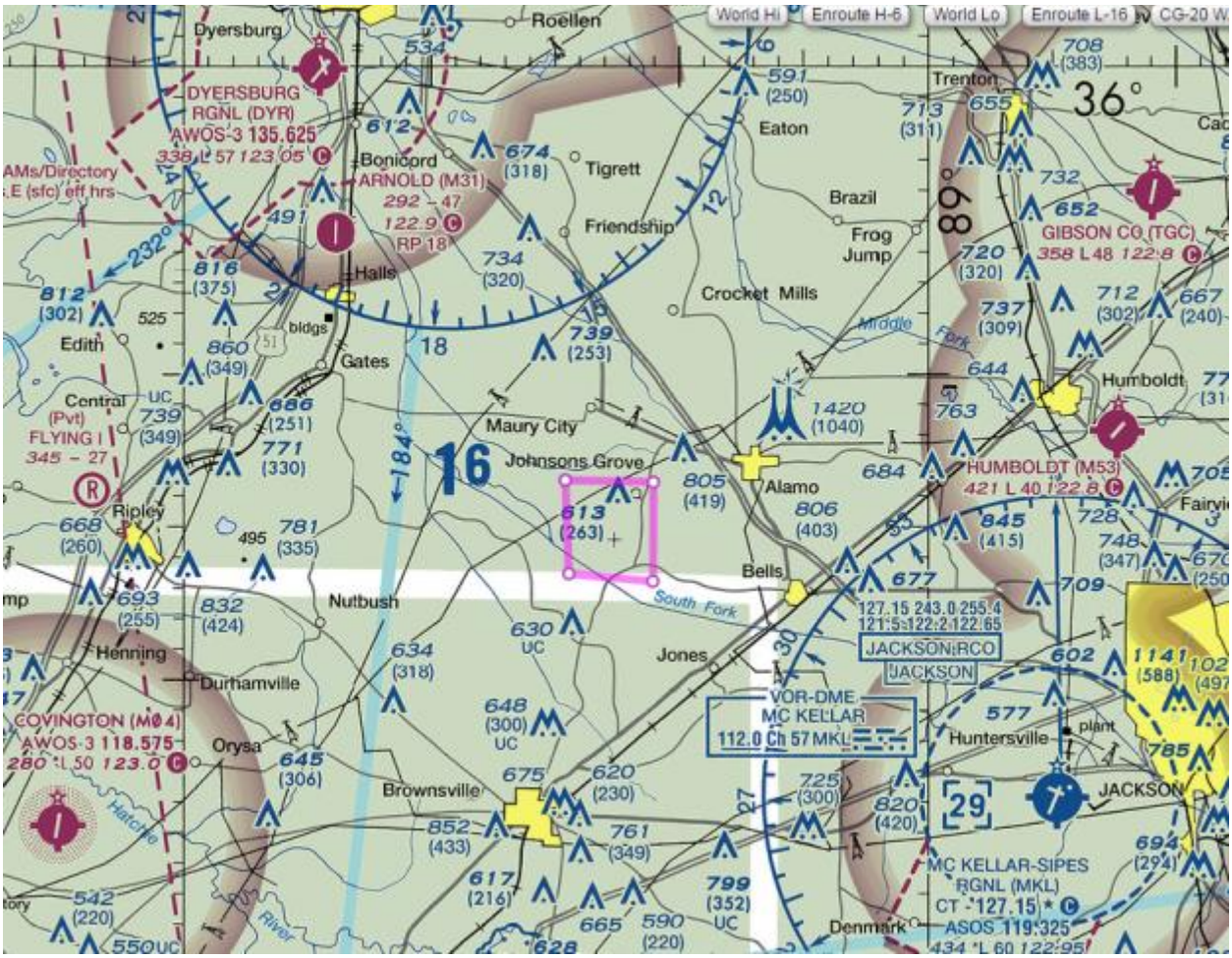
The Aircraft Owners and Pilots Association (AOPA) is a not-for-profit individual membership organization of General Aviation Pilots and Aircraft Owners. AOPA's mission is to effectively serve the interests of its members and establish, maintain and articulate positions of leadership to promote the economy, 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.

Appendix 1

Example 1

08/004 - AIRSPACE UAS WI AN AREA DEFINED AS DYR163015 TO DYR153016 TO DYR157019 TO DYR165018 TO POINT OF ORIGIN SFC-400FT AGL. 06 AUG 15:55 2015 UNTIL 30 SEP 05:00 2015. CREATED: 06 AUG 15:55 2015

There are six airports in close proximity to this UAS NOTAM with five different CTAF frequencies possible. Publishing the specific frequency would be very useful for helicopter or aerial applicators who may want a UAS position report as they may fly lower than 400' AGL within that location. The distance to adjacent airports from the point of origin follows (CTAF in parentheses): 11 NM to M31 (122.9), 16 NM to DYR (123.05), 18 NM to M53 (122.8), 19 NM to MKL (127.15), 20 NM to M04 (123.0), 21 NM to TGC (122.8).



Example 2

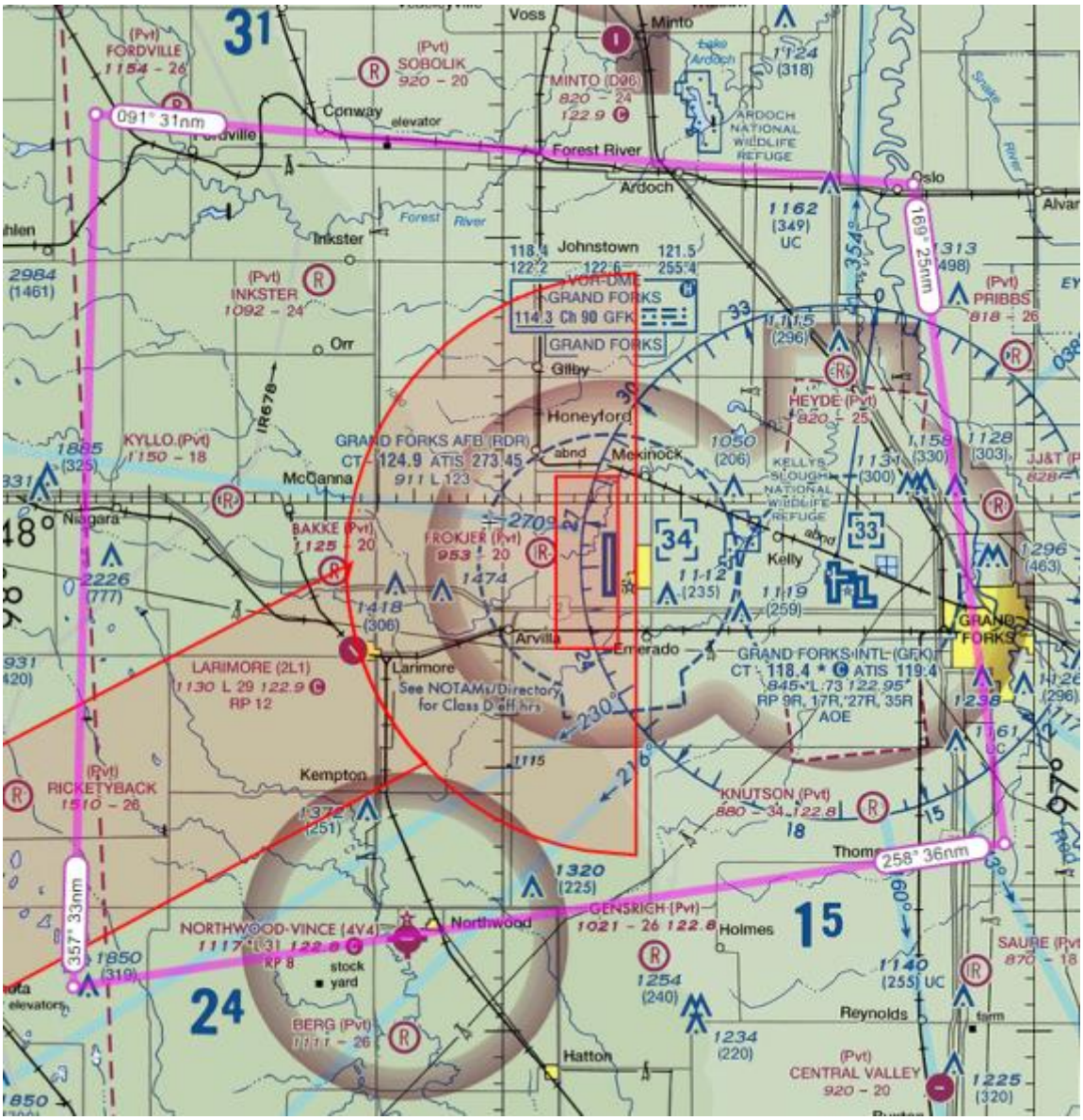
09/194 - AIRSPACE UAS WI AN AREA DEFINED AS 2NM EITHER SIDE OF A LINE SLN228018 TO SLN277020 TO SLN296022 TO MHK298016 7000FT-11500FT. 15 SEP 11:30 2015 UNTIL 15 SEP 20:00 2015. CREATED: 14 SEP 10:42 2015

There are multiple civil airports using different CTAF frequencies within only a few NMs of the NOTAMed route. A large number of general aviation aircraft normally cruise within the block altitude listed of 7,000FT-11500FT. A published frequency would be very useful for pilots wishing for a UAS position report given the large distance of the route and the higher altitude.

Example 3

08/044 - ZMP AIRSPACE UAS WI AN AREA DEFINED AS GFK293033 TO GFK002015 TO GFK139012 TO GFK233033 TO POINT OF ORIGIN SFC-700FT AGL EXC KRDR AND KGFK CLASS D SFC AREA 1508071941-1512312359

This route takes the UAS directly over 4V4 but it is unclear whether the UAS operator will be monitoring that CTAF frequency, 122.8, or another common one in that area, 122.9. Clarification of frequency would make it easier for pilots to understand which one they should monitor or communicate on for updates on UAS position.



Appendix 2

NAVAID	NOTAM #	NOTAM (as of Oct 8, 2016)	MON List	Charted as Shutdown
LVL	01/076	!DCA 01/076 **LVL** NAV VOR OUT OF SERVICE 1401031349-PERM	Yes	No
JKS	09/086	!MKL 09/086 JKS NAV VOR/DME OUT OF SERVICE 1409101706-PERM	Yes	No
PSI	02/024	!PTK 02/024 PSI NAV VOR OUT OF SERVICE 1502221416-PERM	Yes	No
STE	02/008	!STE 02/008 STE NAV VORTAC OUT OF SERVICE 1502221422-PERM	Yes	No
GHM	07/195	!MKL 07/195 GHM NAV VORTAC DECOMMISSIONED 1507171856-PERM	Yes	No
BTL	10/003	!BTL 10/003 BTL NAV VORTAC DECOMMISSIONED 1510071423-PERM	Yes	No
AOH	09/011	!AOH 09/011 AOH NAV VOR OUT OF SERVICE 1609160935-PERM	Yes	No
TAY	10/036	!GNV 10/036 TAY NAV VOR OUT OF SERVICE 1610031533-PERM	Yes	No
FKR	12/053	!HUF 12/053 FKR NAV FKR NDB OUT OF SERVICE 1312041257-PERM		No
PBC	04/050	!MKL 04/050 MRC NAV **PBC** NDB DECOMMISSIONED 1404041814-PERM		No
EWK	08/021	!EWK 08/021 EWK NAV NDB OUT OF SERVICE 1408171816-PERM		No
HBV	11/004	!HBV 11/004 HBV NAV NDB OUT OF SERVICE 1411111408-PERM		No
CUH	11/002	!CUH 11/002 CUH NAV NDB OUT OF SERVICE 1411121435-PERM		No
CVX	12/002	!CVX 12/002 CVX NAV NDB OUT OF SERVICE 1412112046-PERM		No
DMD	02/006	!CZT 02/006 CZT NAV **DMD** NDB OUT OF SERVICE 1502171435-PERM		No
LYO	02/243	!ICT 02/243 LYO NAV NDB DECOMMISSIONED 1502191808-PERM		No
AVZ	03/001	!TRL 03/001 TRL NAV **AVZ** NDB OUT OF SERVICE 1503021525-PERM		No
ADK	03/001	!ADK 03/001 ADK NAV NDB OUT OF SERVICE 1503030545-PERM		No
MLK	04/037	!GTF 04/037 M75 NAV **MLK** NDB OUT OF SERVICE 1504141512-PERM		No
LRT	04/137	!MKL 04/137 2M2 NAV **LRT** NDB OUT OF SERVICE 1504141917-PERM		No
EGT	06/045	!ICT 06/045 EGT NAV NDB OUT OF SERVICE 1506021531-PERM		No
SZO	08/002	!IZG 08/002 IZG NAV **SZO** NDB OUT OF SERVICE 1508061149-PERM		No
SGT	08/008	!SGT 08/008 SGT NAV NDB DECOMMISSIONED 1508171723-PERM		No
ULH	01/312	!BNA 01/312 ULH NAV NDB OUT OF SERVICE 1601221308-PERM		No
LEE	02/004	!LEE 02/004 LEE NAV NDB OUT OF SERVICE 1602081523-PERM		No
ESU	02/395	!ANB 02/395 5R4 NAV **ESU** NDB OUT OF SERVICE 1602182124-PERM		No
SPF	04/002	!SPF 04/002 SPF NAV NDB DECOMMISSIONED 1604071955-PERM		No
FPN	06/004	!PSG 06/004 **FPN** NAV NDB DECOMMISSIONED 1606031630-PERM		No
SCO	06/116	!GTF 06/116 9S2 NAV **SCO** NDB OUT OF SERVICE 1606281515-PERM		No
VED	06/601	!DRI 06/601 L39 NAV **VED** NDB OUT OF SERVICE 1607011200-PERM		No
MDZ	07/001	!MDZ 07/001 MDZ NAV NDB DECOMMISSIONED 1607051930-PERM		No
FNB	07/012	!FNB 07/012 FNB NAV NDB DECOMMISSIONED 1607272100-PERM		No
UKF	09/004	!UKF 09/004 UKF NAV NDB OUT OF SERVICE 1609081934-PERM		No
TAD	09/002	!TAD 09/002 TAD NAV NDB DECOMMISSIONED 1609152150-PERM		No
ORE	10/001	!ORE 10/001 ORE NAV NDB OUT OF SERVICE 1610041726-PERM		No
EVV	06/009	!EVV 06/009 EVV NAV NDB DECOMMISSIONED 1606151330-PERM		Not in NASR or on charts
DLZ	07/205	!DAY 07/205 DLZ NAV NDB DECOMMISSIONED 1607131049-PERM		Not charted
PVJ	04/004	!PVJ 04/004 PVJ NAV NDB OUT OF SERVICE 1504291423-PERM		Not charted