



**Approved by the Tactical Operations  
Committee May 2014**

**NOTAM Search and Filter Options**

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*Report of the NOTAM Task Group in Response to Tasking from  
The Federal Aviation Administration*

*May 2014*

# NOTAM Search and Filter Options

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## Background/Introduction

The Federal Aviation Administration (FAA) is required under Section 3(c) of Public Law 112-153, also known as the 2012 Pilot’s Bill of Rights (“PBoR”), to “establish a NOTAM Improvement Panel, which shall be comprised of representatives of relevant nonprofit and not-for-profit general aviation pilot groups, to advise the Administrator in carrying out the goals of the NOTAM Improvement Program.” The FAA would like to build on the progress already derived from previously established efforts to digitize NOTAMs to comply with the provisions of this law.<sup>1</sup>

The Tactical Operations Committee (TOC) serves as the NOTAM Improvement Panel to further assist the Administration in crafting specific goals and priorities to meet the law’s intent and make needed enhancements to the NOTAM program. In this capacity, the TOC is relying on the NOTAM Task Group (TG) to provide specific recommendations on issues related to the NOTAM program.

The work of the panel will yield an increasing amount of standardized digital NOTAMs that can be more easily filtered, sorted, and prioritized. This should result in a significant reduction in the volume of NOTAMs pilots must currently review and allow pilots to focus only on those NOTAMs relevant to their flight plan/path. As a result, pilots will be more confident in the quality and accuracy of this focused NOTAM information, and the safety of the National Airspace System (NAS) will be improved.

The panel has delivered two recommendations which were approved by the TOC. The first was delivered in November 2013 and the second in February 2014. The FAA wrote a response letter to the November 2013 submission (see Appendix B) that was shared with the TOC members in February 2014 (hereafter referred to as “Response Letter”). This report serves as a response from the NOTAM Task Group to the additional questions raised in the FAA’s February 2014 letter.

## Task and Approach

The FAA Response Letter requested a “working meeting between the members of the Task Group and the Federal NOTAM System (FNS) engineering and development teams to define stakeholder requirements for some of the specific requests.” The Task Group Leadership engaged directly with the FNS team and identified the following areas in which the FAA was interested in Task Group feedback:

- Clarification of search and filter terms
- Prioritization of search and filter options
- Specific questions from FAA response letter

The NOTAM Task Group’s first set of recommendations included a number of requests for options by which to search and filter NOTAMs. The FAA team requested clarification on the definition and intent of the options listed below:

- Runways

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<sup>1</sup> Letter from Elizabeth L. Ray (Vice President, Mission Support Services) to Margaret Jenny (RTCA President) dated July 10, 2013.

- Regions
- Flight Information Regions (FIRs)
- Procedures
- Effective Dates and Times
- Altitude/Flight Level
- Keywords
- Flight Plan Route
- Desired Route Width
- Specific Airport along airman’s route

In addition, the FNS team requested assistance from the Task Group to prioritize this list in importance given that not all capabilities could be implemented immediately.

Finally, the Response Letter included a few specific questions that fell outside the scope of search and filter terms that the Task Group addressed directly.

The NOTAM Task Group held two meetings in early May 2014 to respond to the questions raised in the FAA Response Letter.

## Clarification of Search and Filter Terms

The following table summarizes the Task Group feedback on the intent of the search and filter terms for which the FAA requested clarification:

Term	Task Group Clarification
<b>Runways</b>	The Task Group recognized that NOTAMs for a specific runway could be searched currently in the FNS NOTAM Search tool using the free text option. Some Task Group members expressed an interest in the ability to search for NOTAMs based on runway characteristics such as length, width or surface type.
<b>Regions</b>	The Task Group clarified that Regions implied the ability to search for NOTAMs by geography. Given NOTAM Search currently allows for search by Center, TRACON, airport or other geographic boundary, the Task Group believes that search or filter by Region is sufficiently addressed by the NOTAM Search tool today.
<b>FIRs</b>	Given NOTAM Search currently allows for search within a FIR, the Task Group concluded that search by FIR is sufficiently addressed by the NOTAM Search tool today. The Task Group did discuss the importance of ensuring that International NOTAMs that cross over are included in NOTAM Search.
<b>Procedures</b>	The Task Group described search by Procedure as searching for a type of procedure. For example, an operator may wish to search for all procedures that are for RNP capable operators. An operator may wish to search to include all procedures of a certain type, or they may wish to exclude all procedures of a certain type. In the example, an operator that is not RNP capable may wish to exclude all procedures that require RNP capability.

<b>Effective Dates and Times</b>	The Task Group clarified that this search or filter option implies the ability to search for NOTAMs that correspond only to the time period in which the operator is planning to fly. There was interest for including a time buffer around the intended effective times to allow for changes in planned times.
<b>Altitude/Flight Level</b>	The Task Group stated that the intent of an altitude filter related to the interest in searching for a route of flight. Operators are interested in the ability to submit a route along with a route width buffer laterally around the route as well as an altitude buffer vertically around the route. One Task Group member described the search as a route with a square tube around it for which all relevant NOTAMs would be captured. The Task Group recognized that the FAA communicated the challenges it faces in enabling the altitude capability ahead of complete NOTAM digitization.
<b>Keywords</b>	The Task Group agreed that the keywords from NOTAM Policy comprise a strong starting list of keywords, and the group did not have any additional keywords to suggest.
<b>Flight Plan Route</b>	The Group stated that NOTAM Search should allow a user to input a flight plan route string and receive all NOTAMs associated with the route. The capability should allow the user to define a lateral route width and vertical buffer around the route of flight to capture NOTAMs contained in that “square tube” around the route.
<b>Desired Route Width</b>	The Task Group suggested that a 250nm route width around the route of flight should be a sufficient upper bound for the lateral route width option. This implies 125nm on either side of the center line of the flight plan route.
<b>Specific Airport Along Airman’s Route</b>	The Task Group clarified that a flight plan route with a route width around it may not capture all possible alternates of interest. One operator gave an example of operating from the West coast to Newark and utilizing Boston as an alternate. In such case, airports that are within 125nm of the center line of the route would not include Boston. Hence, the Task Group requested that NOTAM Search include an option for appending additional alternate airports to the search and filter capability.

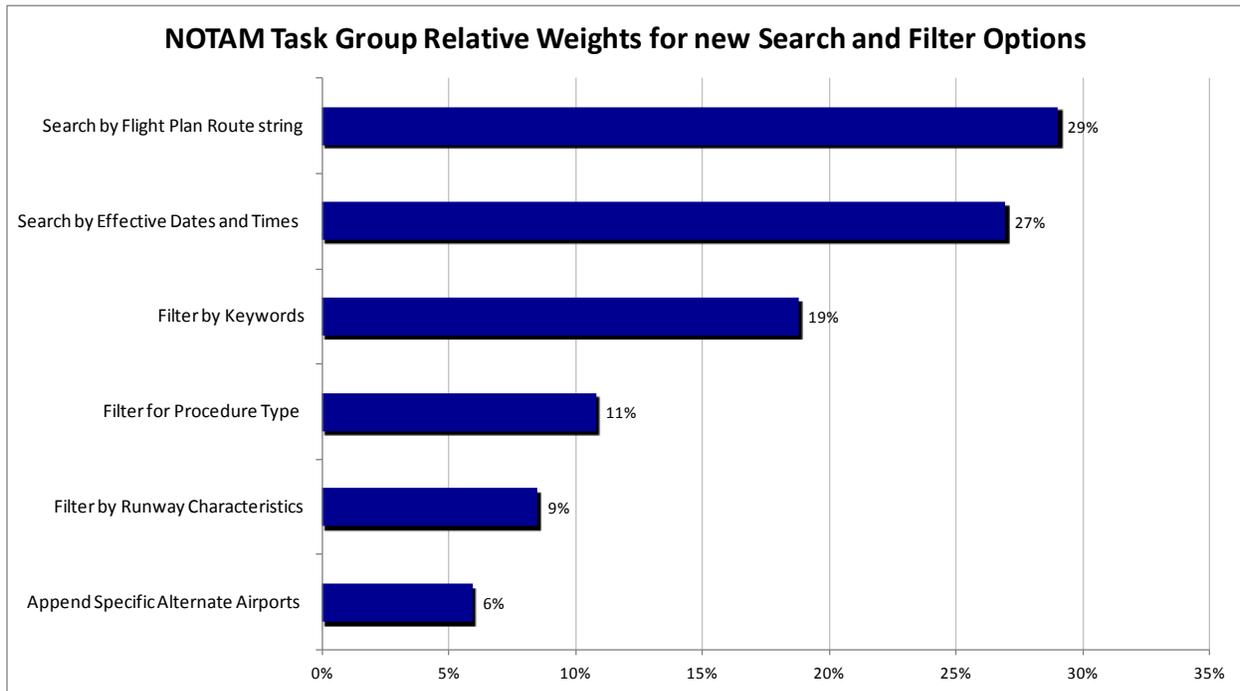
## Prioritization of Search and Filter Terms

After completing the clarification exercise above, the Task Group identified the following six search and filter options not currently available in NOTAM Search:

1. Filter by **Runway Characteristics** (length, width, surface types)
2. Filter for **Procedure Type** to include or exclude a procedure type
3. Filter by **Keywords**  
(RWY, TWY, APRON, AD, OBST, NAV, COM, SVC, AIRSPACE, ODP, SID, STAR, CHART, DATA, IAP, VFP, ROUTE, SPECIAL, SECURITY)
4. Search by **Effective Dates and Times** with a time buffer
5. Search by **Flight Plan Route** string with a route and altitude width around it
6. Append **Specific Alternate Airports** outside of route of flight and route width to the search

The Task Group then prioritized this list of six options using an analytical framework known as the Analytic Hierarchy Process. The Group utilized a software tool known as Decision Lens to conduct the prioritization.

The results of the prioritization are depicted in the following chart. The numbers represent the weighted priority for each of these options according to the NOTAM Task Group:



The Task Group placed the greatest emphasis on the ability to search NOTAMs by a Flight Plan Route String (with lateral/vertical buffers) as well as by Effective Dates and Times (with time buffers).

A secondary priority was the ability to filter by Keywords.

Finally, the third tier preferences were the ability to Filter for Procedure Type, Filter by Runway Characteristics and Append Specific Alternate Airports.

### Additional Recommendations on Search and Filter of NOTAMs

During the course of discussion on search and filter options, the Task Group made note of a few additional recommendations:

1. The general approach users will take for searching and filtering NOTAMs is by searching broadly to begin. From there, users expect to drill down to specifics using filtering capabilities.
2. NOTAM Search should allow users to search for multiple keywords at the same time.
3. NOTAM Search should allow users to filter keywords to both include and exclude the filter term.
4. NOTAM Search should allow users to create personalized accounts. Accounts could include saved information specific to the individual's operation. This may include items such as saved

profiles for specific aircraft types, certain city pairs, specific routes, previous trips, preferred alternates and preferred flight levels. The Task Group recognizes there would be more work required to define the requirements of a user profile.

5. The TG recommends that the “end state” for NOTAMs is a single Federal NOTAM Service web site combining the best features of the current DoD NOTAM and Pilot Web sites into the NOTAM Search web site (The TG realizes DoD may desire to keep its own site for DoD specific purposes).

## Response to Specific Questions in FAA Response Letter

Finally, the Task Group responded to some specific questions raised in the FAA’s Response Letter:

### Response Letter Question 1:

What is intended or implied by “Integration of Artificial Intelligence technology to facilitate ease of use (e.g. pattern recognition)”?

### Task Group Response:

Artificial Intelligence (AI) is an emerging discipline that offers great promise for human/machine interface. At present, in its most sophisticated form, it is probably not a practical addition to FNS, but less sophisticated aspects, like user profiles, may be a reasonable goal. The Task Group recognizes AI has much long term promise but suggests user profiles as a starting point for this item.

### Response Letter Question 2:

On the recommendation for Flight Service Specialists: is the recommendation to allow FSS’s to create NOTAMs (which they do today with ENII) or for FSS’s to use NOTAM Manager in the future?

### Task Group Response:

The Task Group recommends Flight Service Specialists utilize NOTAM Manager in the future. The Group is aware there may be other factors that make this recommendation difficult. However, the Task Group leaves this recommendation as is for the time being with the request to hear further detail from the FAA on the ramifications of the recommendation. While the Task Group envisions full use of NOTAM Manager from all NOTAM originators, the Group is also interested in understanding the challenges it creates for the FAA.

### Response Letter Question 3:

The FAA has stated that the NOTAM Improvement Panel will be an important participant in helping digitize the last 20% of NOTAMs. What ideas do different stakeholders, particularly those representing airports, general and business aviation, have to partner with the FAA to motivate digitization towards 100%?

### Task Group Response:

The Task Group suggested the FAA consider whether it should define a date in the future to require digital entry for all NOTAMs.

Additionally, some Task Group members indicated an interest to examine data on which NOTAM generators are not originating NOTAMs digitally. Some Task Group members are membership based organizations and may be able to leverage local members to support outreach to airports that are not transitioning to digital. The members suggested that the message may have more weight if delivered from a local entity, and the local members of some organizations may be able to support this in the future.

Finally, the Task Group suggested the FAA consider including a link to the primary FNS site in the “One Stop Shop” AIM Modernization Portal which is expected to have Initial Operating Capability in late 2015. Doing so will offer support to the FAA in getting closer to the 100% digitization goal because those originators not entering NOTAMs digitally may need other services from the AIMM portal and get exposure to the FNS site. This also supports the FAA and NextGen’s objectives of having one place where users can go to get all aeronautical information.

## Appendix A: Members of the NOTAM Task Group

Kal Bala	RTCA, Inc.	Bob Lamond	National Business Aviation Association
Chris Baum	Air Line Pilots Association		
Rich Boll	National Business Aviation Association	Jeffrey Miller	International Air Transport Association
Dave Bradshaw	Federal Aviation Administration	Jim Mills	U.S. Air Force
<b>Mark Cardwell</b>	<b>FedEx Express (Co-Chair)</b>	Trin Mitra	RTCA, Inc.
Andy Cebula	RTCA, Inc.	David Newton	Southwest Airlines
Jocelyn Cox	CNA	Glenn Sigley	Federal Aviation Administration
Trish Gay	Federal Aviation Administration	Ashish Solanki	Maryland Aviation Administration
Adam Gerhardt	TASC, Inc.	Edwin Solley	Southwest Airlines
Steve Habicht	CNA	Harold Summers	Helicopter International Association
Shaelynn Hales	CNA		
Jack Hurley	Delta Air Lines, Inc.	Brandi Teel	RTCA, Inc.
Ezra Jalleta	The MITRE Corporation	Robert Utley	National Air Traffic Controllers Association
Scott Jerdan	Federal Aviation Administration	David von Rinteln	Hewlett Packard
Christian Kast	United Parcel Service	Michael Williams	Hewlett Packard
Des Keany	American Airlines, Inc.	Diana Young	Federal Aviation Administration
<b>Tom Kramer</b>	<b>Aircraft Owners and Pilots Association (Co-Chair)</b>		

## Appendix B: FAA Response Letter to NOTAM Recommendation #1



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Mission Support Services  
800 Independence Avenue, SW.  
Washington, DC 20591

FEB 04 2014

Ms. Margaret T. Jenny  
President  
RTCA, Inc.  
1150 18th Street, NW  
Suite 910  
Washington, DC 20036

Dear Ms. Jenny:

The Federal Aviation Administration (FAA) is required under Section 3(c) of Public Law 112-153, also known as the 2012 Pilot's Bill of Rights, to "establish a NOTAM Improvement Panel, which shall be comprised of representatives of relevant nonprofit and not-for profit general aviation pilot groups, to advise the Administrator in carrying out the goals of the NOTAM Improvement Program." The FAA would like to build on the progress already made with "digital NOTAMs" to comply with the provisions of this law. We believe having the Tactical Operations Committee (TOC) serve as the NOTAM Improvement Panel will further assist the Agency in crafting specific goals and priorities to meet the law's intent and make needed enhancements to the NOTAM program.

We believe the work of the panel will yield an increasing amount of standardized digital NOTAMs that can be more easily filtered, sorted, and prioritized. This result should yield significant reductions in the volume of NOTAMs pilots must currently review and allow pilots to focus only on those NOTAMs relevant to their flight plan/path. As a result, pilots will be more confident in the quality and accuracy of this focused NOTAM information and the safety of the NAS will be improved.

We request the Tactical Operations Committee complete the following tasks:

**Task 1 – Establish the NOTAM Improvement Panel as a chartered function of the TOC and review recent and planned future NOTAM modernization efforts of the FAA**

We have provided documentation as needed as well as subject matter expertise to assist the TOC and task groups in its deliberations as described in Task 1.

Federal Aviation Administration (FAA) Response to Recommendations from the Radio Technical Commission for Aeronautics (RTCA) Notices To Airmen (NOTAM) Improvement Panel (NIP)

## Summary

The NIP delivered a draft report to the FAA listing **10 recommendations** to prioritize certain NOTAM modernization activities to meet the needs of the aviation community and the intent of the Pilot's Bill of Rights (PBoR) legislation. The 10 recommendations are listed below along with the FAA's response to each, discussing the extent of work accomplished to date, the anticipated plans for future work, and any additional information as appropriate. An overview of the FAA Aeronautical Information Management (AIM; AJV-2) office's response to the recommendations can be summarized as:

- The recommendations provide valuable stakeholder requirements to guide development under the NIP.
- The FAA AIM office requests a working meeting involving the members of the task group and the Federal NOTAM System (FNS) engineering and development teams to define stakeholder requirements for some of the specific requests (e.g., the flight path search tool).
- The FAA AIM office is developing a strategic plan to conduct outreach and engagement with aviation stakeholder groups.

## Panel Recommendations and FAA Responses:

### **1. Continue to promote and support NOTAM modernization through the AIM office.**

#### FAA AIM (AJV-2) Response:

The FAA AIM office has continued its efforts to modernize the NOTAM system by improving the origination, management, and dissemination of digital NOTAMs. In the coming year, NOTAM origination capabilities will be expanded to include Department of Defense (DoD) and instrument flight procedure NOTAMs. Distribution capabilities will be enhanced through the release of the NOTAM distribution service, an FAA System Wide Information Management (SWIM) service that will serve as a system-to-system interface for digital NOTAM information. The recommendations from the NIP will serve as the basis to further enhance the dissemination (improved search, sort, and filter options) and management (NOTAM central archive) of NOTAMs.

### **2. Develop filter options based on the DoD's ability to define a flight route request in terms of planned routing, altitude/flight level, width of search, departure and Enroute times, and customization selections designed to identify "suitable" airports Enroute (e.g. runway length, width, load bearing capability, approach capabilities).**

#### FAA AIM (AJV-2) Response:

To date, FNS NOTAM Search provides the initial capability for flight plan route searching by allowing the user to enter multiple location identifiers into the search box. A robust flight plan route search tool appears to be a key recommendation from

the NIP to “present NOTAMs that are specific and relevant to the airman’s route.” The FAA AIM office will work with stakeholders represented by the NIP to further define the necessary attributes to specify a flight path and can also leverage the desirable characteristics of the DoD flight route filtering option to enhance the FNS NOTAM Search application. The level of effort required to develop the full capability will depend on further clarifying these requirements; e.g., defining a route as a straight line from point A to point B could be a straight forward implementation, but defining the most optimal route from point A to point B would be a much more complex endeavor. The FAA AIM office could work with the panel to set up a work group with these stakeholders to define the initial requirements for this capability.

- 3. Define, create and support a base-level NOTAM interface that combines the elements described in the “Key Observations, Findings and Outcomes” section of this report and that test groups from various aviation backgrounds be employed to beta-test and refine any developments in this area prior to deployment. Organizations representing various segments of the aviation community could be enlisted to help identify volunteers who would be willing to participate in efforts to test and refine NOTAM developments thereby helping to reduce the likelihood that unproductive and inefficient tools reach production status.**

FAA AIM (AJV-2) Response:

The “Key Observations, Findings and Outcomes” section of the report lists a variety of search options and filters that should be implemented to improve NOTAM distribution. FNS NOTAM Search already includes the ability to search and filter using some of the options listed in the report. The FAA AIM office would work with the panel to set up a work group with these stakeholders to define and, if possible, prioritize the remaining search/sort/filter options to adequately evaluate the requirements and the level of effort required to implement them.

The report also defines characteristics of a user-friendly format for the airman, which includes:

- Plain Text (when desired)
- “Smart” Capitalization (Capitalization consistently and exclusively used to highlight specific words or abbreviations for emphasis purposes)
- Graphical NOTAMs
- Integration of Artificial Intelligence technology to facilitate ease of use (e.g. pattern recognition) to the maximum extent possible
- The ability to create a user profile option that would help customize, abbreviate and simplify the user’s experience
- Print friendly
- Appropriate notation that once NOTAMs have been filtered, all NOTAMs may no longer be visible

FNS is already addressing 4 of the 7 items listed above:

- FNS NOTAM Search currently provides a **plain text** option for NOTAMs
- FNS NOTAM Search ATC (currently in development) provides the ability to create a **user profile**—this option could be extended to FNS NOTAM Search
- FNS NOTAM Search currently uses a text box **notation** to tell the user how many NOTAMs have been filtered based on their actions
- FNS NOTAM Search currently provides “**print friendly**” views, and these could be enhanced based on other user requirements if necessary

The remaining 3 items:

- “**Smart**” **capitalization** and other features for emphasis purposes should be explored with Human Factors to develop the most effective solution; this effort may also leverage recommendations from SAEG10
- FAA AIM office is building the foundation for **graphical NOTAM** display through the collection of digital data and to date has focused on making this data available through standard web services to allow the development of graphical NOTAMs by third party vendors
- Need to clarify what is meant by **artificial intelligence**/pattern recognition technology

In addition to search, filter, and format options, this section also defines some of the NIP’s recommendations for the NOTAM public archive. The implementation of the archive will focus on adding a date range to the current FNS NOTAM Search application to retrieve historical NOTAMs. This implementation will provide archive users with the same sorting and filtering capabilities that would be used to retrieve active NOTAMs.

**4. Continue the efforts already underway to educate third-party developers in the potential of products based on digitized NOTAMs.**

FAA AIM (AJV-2) Response:

The FAA AIM office agrees with the Panel and will continue to leverage FAA and other forums to educate stakeholders on the potential of digital NOTAMs. The FAA AIM office hosts a session dedicated to the progress and new developments of digital NOTAMs at the annual Air Transportation Information Exchange Conference (ATIEC). The FNS deployment team engages airport operators through a variety of outreach mechanisms to convey the benefits of digital NOTAMs. There is also a publically available website (<https://notams.aim.faa.gov>) that presents the digital NOTAM effort and new developments to FNS. Further, the FAA AIM Office is developing a strategic plan to conduct outreach and engagement with stakeholder groups, including third party developers, to help realize this potential.

- 5. Develop a plan to educate users in the practice of sorting and filtering NOTAMs with emphasis on those tools currently available and that additional training be provided as both a refresher and as an introduction to new features. Such an effort could take the form of a tutorial, ideally in video format, which could be accessed from the FAA's NOTAM website. In addition, a quick reference guide should be developed for download in PDF format.**

FAA AIM (AJV-2) Response:

The FAA AIM Office agrees with the Panel that training is a key resource for the effective use of NOTAM applications and their features. The FNS NOTAM Search application has a user guide that is readily available from the website and is also available to download in PDF format. This guide captures the current functionality of the application and will continue to be updated as new features are added. The FAA AIM office will explore means to provide additional training resources, to ensure that users can fully exploit the features of FNS applications, such as NOTAM Search.

- 6. Undertake an effort to communicate to and educate U.S. airport operators in the use and value of NOTAM Manager as a means of creating NOTAMs and that goals be established in support of these efforts. It may be necessary to establish a date beyond which NOTAMs could only be created using NOTAM Manager. In such a case, it would fall on the FAA to create a timeline which allows for such a conversion in an orderly manner. While benefits of the NOTAM digitization effort will become increasing apparent in the coming years, complete exploitation of this potential will not occur until all NOTAMs are created through an interface, such as NOTAM Manager, which digitizes the information at point of origin.**

FAA AIM (AJV-2) Response:

The FAA AIM office will continue to explore and pursue efforts to maximize the number of digital NOTAMs available in the National Airspace System (NAS). The FAA AIM office currently conducts outreach and communication efforts to educate multiple NOTAM origination stakeholders on the use and value of FNS NOTAM Manager to facilitate the move to digital NOTAMs. FNS NOTAM Manager currently supports NOTAM origination by airport operators, tower light operators, and FAA technical operations personnel, and will add DoD personnel and instrument flight procedures personnel by the end of calendar year 2014. For airport stakeholders, the FAA AIM office engages US airport operators on the use of FNS NOTAM Manager through a dedicated FNS airport deployment team for FAA-guided implementation and more recently through an online Airport Self-Certification website to allow operators to begin the implementation process themselves. The FAA AIM office would welcome a partnership with the key stakeholder groups represented by the NIP to raise awareness of FNS NOTAM Manager and the Airport Self-Certification website among airport operators. In addition to digital origination of NOTAMs at the source, it should be noted that the

FNS can transform some standardized analog NOTAMs into digital NOTAMs through the use of a transformation engine.

- 7. Modify NOTAM Manager to allow Flight Service Specialist to use as an interface for creating NOTAMs from those originators who are not immediately capable of doing so themselves.**

FAA AIM (AJV-2) Response:

Flight Services currently uses another FNS application, eNOTAM II (ENII), to create and approve NOTAMs that are received via phone, fax, or other legacy methods. This application allows electronic capture of NOTAM information but still produces NOTAMs in analog, rather than digital, format to support airports without baseline data and to support the origination of NOTAMs that do not have a digital event scenario. Although these NOTAMs are originated in analog format, the FNS transformation engine can transform some of these standardized analog NOTAMs into digital NOTAMs. Thus, through ENII, Flight Service Specialists already have an interface for creating NOTAMs from those originators who are not immediately capable of doing so themselves, and these NOTAMs are then disseminated via FNS. The FAA AIM office would request that the NIP clarify if the intent of this recommendation is to allow FAA Flight Services to create NOTAMs, or is a specific recommendation to have FAA Flight Services use NOTAM Manager. Further, as recommended by the Panel, the FAA AIM office will continue to work with FAA Flight Services and other offices as appropriate, to ensure that there are methods in place to capture NOTAMs by legacy methods as necessary.

- 8. Expedite the effort to digitize all remaining NOTAM categories to include airspace, procedures, TFR, pointer NOTAMs, international, and military.**

FAA AIM (AJV-2) Response:

The FAA AIM office has focused efforts on digitizing NOTAMs from stakeholders based on the percent of total NOTAMs issued in the NAS, and agrees with the Panel that continuing to provide digital NOTAM capabilities to new stakeholders should be a priority. Through the Federal NOTAM system today, approximately 60% of NOTAMs in the NAS are available digitally.

The FAA AIM office is now in the process of digitizing both military and procedure NOTAMs, two key NOTAM originators, with plans to implement these capabilities by the end of FY2014. Through these efforts, and the ability to transform some standardized analog NOTAMs to digital format, the FAA AIM office estimates that by the end of calendar year 2014, approximately 80% of NOTAMs in the NAS will be available digitally. Efforts to digitize the remaining NOTAM categories will continue to be planned and evaluated.

**9. Provide funding in support of efforts to create geo-referenced data for all taxiways and ramps within the NAS thereby expanding the potential use of graphical NOTAMs.**

FAA AIM (AJV-2) Response:

The FAA AIM Office agrees with the Panel that collecting geo-referenced taxiway and ramp data is critical to support the creation and use of graphical NOTAMs. FNS currently contains geo-referenced baseline data to support the airports that use FNS NOTAM Manager, and the FNS deployment team currently collects this data as part of the implementation process for NOTAM Manager. In the near term, the extent of baseline data will continue to increase as FNS is deployed to more airports. Looking forward, FAA programs such as NAV Lean are working on solutions to realize an authoritative set of baseline data for airports. The FNS NOTAM Distribution Service will then disseminate NOTAMs and their associated baseline data in the Aeronautical Information Exchange Model (AIXM) format, which represents the ICAO-adopted international standard for data exchange, and will support third party efforts to develop graphical NOTAM display capabilities.

**10. Develop a comprehensive approach to aeronautical information in which required flight information is not necessarily categorized and sourced separately but is instead drawn and assembled from all available information and is based on the unique needs of a particular flight. While this goal may not be immediately achievable, steps can be taken now to begin to digitize and organize all flight information with the goal of creating an interface where all pertinent flight information (not just NOTAMs) is provided upon user request.**

FAA AIM (AJV-2) Response:

The FAA AIM Office agrees with the Panel on the value of a single portal to access all pertinent flight information. The work performed under the NIP will provide the NOTAM information necessary to fulfill this recommendation. Looking forward, the FAA AIM office is currently collaborating with the FAA NAV Lean program and the FAA Project Management Organization (PMO), who have begun planning for this type of solution as part of its overall modernization effort. Further, the FAA has taken a lead role in developing and maturing data exchange standards (AIXM, Weather Information Exchange Model (WXXM), and Flight Information Exchange Model (FIXM)) to support this effort.

The NIP has provided recommendations to help achieve the Administrator's goal of fulfilling the 2012 Pilot's Bill of Rights intent and enhancements to the NOTAM program.

Sincerely,



Elizabeth L. Ray  
Vice President, Mission Support Services  
Air Traffic Organization

## Appendix C: Pilot's Bill of Rights Public Law 112-153

Public Law 112–153  
112th Congress

An Act

To amend title 49, United States Code, to provide rights for pilots, and for other purposes.

Aug. 3, 2012  
[S. 1335]

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

**SECTION 1. SHORT TITLE.**

This Act may be cited as the “Pilot’s Bill of Rights”.

Pilot’s Bill of  
Rights.  
49 USC 40101  
note.

**SEC. 2. FEDERAL AVIATION ADMINISTRATION ENFORCEMENT PROCEEDINGS AND ELIMINATION OF DEFERENCE.**

49 USC 44703  
note.

(a) **IN GENERAL.**—Any proceeding conducted under subpart C, D, or F of part 821 of title 49, Code of Federal Regulations, relating to denial, amendment, modification, suspension, or revocation of an airman certificate, shall be conducted, to the extent practicable, in accordance with the Federal Rules of Civil Procedure and the Federal Rules of Evidence.

(b) **ACCESS TO INFORMATION.**—

(1) **IN GENERAL.**—Except as provided under paragraph (3), the Administrator of the Federal Aviation Administration (referred to in this section as the “Administrator”) shall provide timely, written notification to an individual who is the subject of an investigation relating to the approval, denial, suspension, modification, or revocation of an airman certificate under chapter 447 of title 49, United States Code.

Notification.

(2) **INFORMATION REQUIRED.**—The notification required under paragraph (1) shall inform the individual—

(A) of the nature of the investigation;

(B) that an oral or written response to a Letter of Investigation from the Administrator is not required;

(C) that no action or adverse inference can be taken against the individual for declining to respond to a Letter of Investigation from the Administrator;

(D) that any response to a Letter of Investigation from the Administrator or to an inquiry made by a representative of the Administrator by the individual may be used as evidence against the individual;

(E) that the releasable portions of the Administrator’s investigative report will be available to the individual; and

(F) that the individual is entitled to access or otherwise obtain air traffic data described in paragraph (4).

(3) EXCEPTION.—The Administrator may delay timely notification under paragraph (1) if the Administrator determines that such notification may threaten the integrity of the investigation.

(4) ACCESS TO AIR TRAFFIC DATA.—

(A) FAA AIR TRAFFIC DATA.—The Administrator shall provide an individual described in paragraph (1) with timely access to any air traffic data in the possession of the Federal Aviation Administration that would facilitate the individual's ability to productively participate in a proceeding relating to an investigation described in such paragraph.

(B) AIR TRAFFIC DATA DEFINED.—As used in subparagraph (A), the term “air traffic data” includes—

- (i) relevant air traffic communication tapes;
- (ii) radar information;
- (iii) air traffic controller statements;
- (iv) flight data;
- (v) investigative reports; and
- (vi) any other air traffic or flight data in the Federal Aviation Administration's possession that would facilitate the individual's ability to productively participate in the proceeding.

(C) GOVERNMENT CONTRACTOR AIR TRAFFIC DATA.—

(i) IN GENERAL.—Any individual described in paragraph (1) is entitled to obtain any air traffic data that would facilitate the individual's ability to productively participate in a proceeding relating to an investigation described in such paragraph from a government contractor that provides operational services to the Federal Aviation Administration, including control towers and flight service stations.

(ii) REQUIRED INFORMATION FROM INDIVIDUAL.—The individual may obtain the information described in clause (i) by submitting a request to the Administrator that—

- (I) describes the facility at which such information is located; and
- (II) identifies the date on which such information was generated.

(iii) PROVISION OF INFORMATION TO INDIVIDUAL.—If the Administrator receives a request under this subparagraph, the Administrator shall—

- (I) request the contractor to provide the requested information; and
- (II) upon receiving such information, transmitting the information to the requesting individual in a timely manner.

(5) TIMING.—Except when the Administrator determines that an emergency exists under section 44709(c)(2) or 46105(c), the Administrator may not proceed against an individual that is the subject of an investigation described in paragraph (1) during the 30-day period beginning on the date on which the air traffic data required under paragraph (4) is made available to the individual.

(1) AIRMAN CERTIFICATES.—Section 44703(d)(2) of title 49, United States Code, is amended by striking “but is bound by all validly adopted interpretations of laws and regulations the Administrator carries out unless the Board finds an interpretation is arbitrary, capricious, or otherwise not according to law”.

(2) AMENDMENTS, MODIFICATIONS, SUSPENSIONS, AND REVOCATIONS OF CERTIFICATES.—Section 44709(d)(3) of such title is amended by striking “but is bound by all validly adopted interpretations of laws and regulations the Administrator carries out and of written agency policy guidance available to the public related to sanctions to be imposed under this section unless the Board finds an interpretation is arbitrary, capricious, or otherwise not according to law”.

49 USC 44709.

(3) REVOCATION OF AIRMAN CERTIFICATES FOR CONTROLLED SUBSTANCE VIOLATIONS.—Section 44710(d)(1) of such title is amended by striking “but shall be bound by all validly adopted interpretations of laws and regulations the Administrator carries out and of written agency policy guidance available to the public related to sanctions to be imposed under this section unless the Board finds an interpretation is arbitrary, capricious, or otherwise not according to law”.

49 USC 44710.

(d) APPEAL FROM CERTIFICATE ACTIONS.—

(1) IN GENERAL.—Upon a decision by the National Transportation Safety Board upholding an order or a final decision by the Administrator denying an airman certificate under section 44703(d) of title 49, United States Code, or imposing a punitive civil action or an emergency order of revocation under subsections (d) and (e) of section 44709 of such title, an individual substantially affected by an order of the Board may, at the individual’s election, file an appeal in the United States district court in which the individual resides or in which the action in question occurred, or in the United States District Court for the District of Columbia. If the individual substantially affected by an order of the Board elects not to file an appeal in a United States district court, the individual may file an appeal in an appropriate United States court of appeals.

(2) EMERGENCY ORDER PENDING JUDICIAL REVIEW.—Subsequent to a decision by the Board to uphold an Administrator’s emergency order under section 44709(e)(2) of title 49, United States Code, and absent a stay of the enforcement of that order by the Board, the emergency order of amendment, modification, suspension, or revocation of a certificate shall remain in effect, pending the exhaustion of an appeal to a Federal district court as provided in this Act.

(e) STANDARD OF REVIEW.—

(1) IN GENERAL.—In an appeal filed under subsection (d) in a United States district court, the district court shall give full independent review of a denial, suspension, or revocation ordered by the Administrator, including substantive independent and expedited review of any decision by the Administrator to make such order effective immediately.

(2) EVIDENCE.—A United States district court’s review under paragraph (1) shall include in evidence any record of the proceeding before the Administrator and any record of the proceeding before the National Transportation Safety

Board, including hearing testimony, transcripts, exhibits, decisions, and briefs submitted by the parties.

49 USC 44701  
note.

**SEC. 3. NOTICES TO AIRMEN.**

(a) IN GENERAL.—

(1) DEFINITION.—In this section, the term “NOTAM” means Notices to Airmen.

Deadline.

(2) IMPROVEMENTS.—Not later than 180 days after the date of the enactment of this Act, the Administrator of the Federal Aviation Administration shall begin a Notice to Airmen Improvement Program (in this section referred to as the “NOTAM Improvement Program”)—

(A) to improve the system of providing airmen with pertinent and timely information regarding the national airspace system;

(B) to archive, in a public central location, all NOTAMs, including the original content and form of the notices, the original date of publication, and any amendments to such notices with the date of each amendment; and

(C) to apply filters so that pilots can prioritize critical flight safety information from other airspace system information.

(b) GOALS OF PROGRAM.—The goals of the NOTAM Improvement Program are—

(1) to decrease the overwhelming volume of NOTAMs an airman receives when retrieving airman information prior to a flight in the national airspace system;

(2) to make the NOTAMs more specific and relevant to the airman’s route and in a format that is more useable to the airman;

(3) to provide a full set of NOTAM results in addition to specific information requested by airmen;

(4) to provide a document that is easily searchable; and

(5) to provide a filtering mechanism similar to that provided by the Department of Defense Notices to Airmen.

Establishment.

(c) ADVICE FROM PRIVATE SECTOR GROUPS.—The Administrator shall establish a NOTAM Improvement Panel, which shall be comprised of representatives of relevant nonprofit and not-for-profit general aviation pilot groups, to advise the Administrator in carrying out the goals of the NOTAM Improvement Program under this section.

Deadline.

(d) PHASE-IN AND COMPLETION.—The improvements required by this section shall be phased in as quickly as practicable and shall be completed not later than the date that is 1 year after the date of the enactment of this Act.

49 USC 44703  
note.

**SEC. 4. MEDICAL CERTIFICATION.**

(a) ASSESSMENT.—

Deadline.

(1) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, the Comptroller General of the United States shall initiate an assessment of the Federal Aviation Administration’s medical certification process and the associated medical standards and forms.

(2) REPORT.—The Comptroller General shall submit a report to Congress based on the assessment required under paragraph (1) that examines—

(A) revisions to the medical application form that would provide greater clarity and guidance to applicants;

(B) the alignment of medical qualification policies with present-day qualified medical judgment and practices, as applied to an individual's medically relevant circumstances; and

(C) steps that could be taken to promote the public's understanding of the medical requirements that determine an airman's medical certificate eligibility.

(b) GOALS OF THE FEDERAL AVIATION ADMINISTRATION'S MEDICAL CERTIFICATION PROCESS.—The goals of the Federal Aviation Administration's medical certification process are—

(1) to provide questions in the medical application form that—

(A) are appropriate without being overly broad;

(B) are subject to a minimum amount of misinterpretation and mistaken responses;

(C) allow for consistent treatment and responses during the medical application process; and

(D) avoid unnecessary allegations that an individual has intentionally falsified answers on the form;

(2) to provide questions that elicit information that is relevant to making a determination of an individual's medical qualifications within the standards identified in the Administrator's regulations;

(3) to give medical standards greater meaning by ensuring the information requested aligns with present-day medical judgment and practices; and

(4) to ensure that—

(A) the application of such medical standards provides an appropriate and fair evaluation of an individual's qualifications; and

(B) the individual understands the basis for determining medical qualifications.

(c) ADVICE FROM PRIVATE SECTOR GROUPS.—The Administrator shall establish a panel, which shall be comprised of representatives of relevant nonprofit and not-for-profit general aviation pilot groups, aviation medical examiners, and other qualified medical experts, to advise the Administrator in carrying out the goals of the assessment required under this section.

Establishment.

(d) FEDERAL AVIATION ADMINISTRATION RESPONSE.—Not later than 1 year after the issuance of the report by the Comptroller

Deadline.

126 STAT. 1164

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General pursuant to subsection (a)(2), the Administrator shall take appropriate actions to respond to such report.

Approved August 3, 2012.

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LEGISLATIVE HISTORY—S. 1335:

CONGRESSIONAL RECORD, Vol. 158 (2012):  
June 29, considered and passed Senate.  
July 23, considered and passed House.

