2024 FAA Reauthorization Act Section 760 Briefing

Federal Aviation Administration

Contents

Background

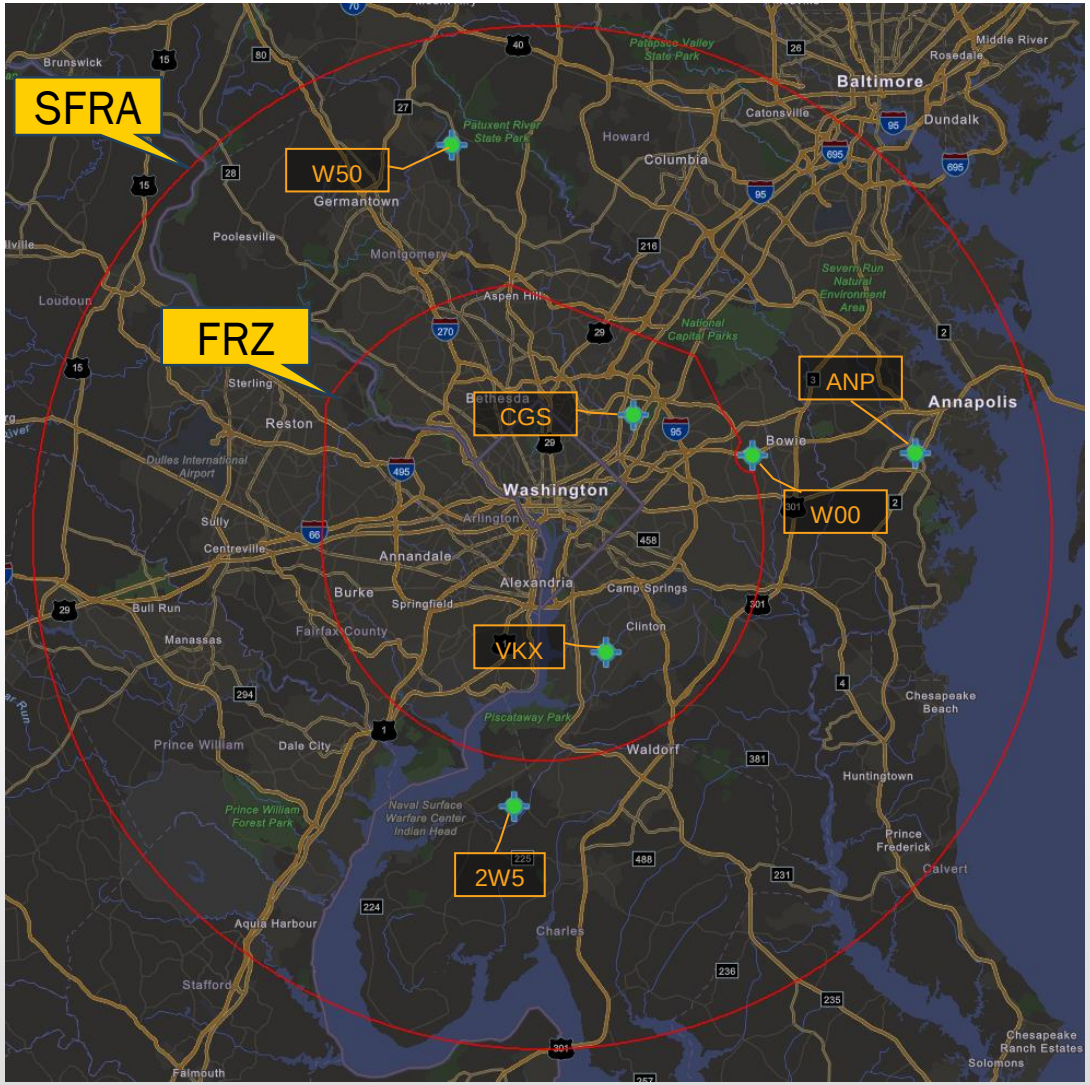
- **Congressional Mandate and Study Requirements:**
  - Congress has mandated a study and briefing to evaluate the feasibility and associated costs of installing communication equipment and allowing electronic flight plan submissions. The intent is to improve coordination between pilots and air traffic control for flights into and out of the Special Flight Rules Area (SFRA) and Flight Restricted Zone (FRZ) in the Washington, D.C., metropolitan area.
  - The study is required under **Section 760 of the FAA Reauthorization Act of 2024**, which mandates the FAA to:
    - Assess the feasibility of installing equipment enabling pilots to communicate with ATC via very high frequency (VHF) radios to receive IFR clearances and activate DC FRZ and SFRA flight plans.
    - Focus on non-towered airports in the FRZ and airports in the SFRA that currently lack VHF communication equipment.
- **Regulatory Framework:**
  - Subpart V of 14 CFR Part 93: Governs air traffic rules for operations within the SFRA, including the FRZ.
  - 49 CFR Part 1562: Implements additional restrictions and requirements for operations within the FRZ, including TSA's role in issuing pilot identification codes (PIC) for approved operations.
- **SFRA and FRZ Definitions:**
  - SFRA: A lateral 30-nautical mile (NM) radius around the Ronald Reagan Washington National Airport, established post-September 11, 2001, for enhanced security, forming the outer security boundary.
  - FRZ: Located within the SFRA, covering a 13-15 NM radius around Washington, DC.
  - National Defense Airspace: Both the SFRA and FRZ are defined as national defense airspace as defined under 14 CFR 93.331 and subject to restriction contained in 49 CFR Part 1562 and 49 U.S.C. 46307.

Airports Included in the Brief, Sec 760 (c) (1) (a) (b)

- **Criteria**
  - Public use airports
  - Non-towered within the FRZ
  - No VHF Remote Transmitter/Receiver (RTR) capability within the SFRA
    - RTR: A facility that enables air traffic control communication with pilots over the VHF radio spectrum, extending coverage within the SFRA/FRZ.

ID	Name	SFRA /FRZ	City	State	*Annual Ops Avg	Daily Ops Avg
CGS	COLLEGE PARK	FRZ	COLLEGE PARK	MD	355	0.97
VKX	POTOMAC AIRFIELD	FRZ	FRIENDLY	MD	723	1.98
2W5	MARYLAND	SFRA	INDIAN HEAD	MD	556	1.52
ANP	LEE	SFRA	ANNAPOLIS	MD	920	2.52
W00	FREEWAY	SFRA	BOWIE	MD	746	2.04
W50	DAVIS	SFRA	LAYTONSVILLE	MD	55	0.15

* Operational data provided by FAA System Event and Analysis Group, CountOps



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Current State of Filing Flight Plans at FRZ and SFRA Airports, Sec 760 (c) (2) (3)

FRZ Flight Plans

- Potomac Airfield (VKX) and College Park Airport (CGS) general aviation and commercial operators file flight plans as follows:
  - Email (electronically file) their flight plan requests to Washington Air Route Traffic Control Center's (ZDC) Flight Data Unit (FDU) up to 21 hours prior to activation, or
  - File a flight plan via a phone call to ZDC FDU.
- Pilots must call via phone and provide the TSA-issued Pilot Identification Code (PIC). The PIC is verified against the FRZ authorized access list provided by TSA and used for reference by ZDC FDU.
- Upon PIC validation, the operator's flight plan is entered into the National Airspace System's flight plan automation system.
- Immediately prior to departure, operators must call Potomac Consolidated TRACON (PCT) via telephone for their flight clearance, to include beacon code and frequency assignment.

SFRA Flight Plans

- SFRA pilots, departing and arriving, can file flight plans via electronic platforms today, unless their flight plan includes FRZ operations. The process for FRZ operations is noted above.
- Airborne flights that plan to enter the SFRA must contact PCT air traffic control for a beacon code assignment before entering the SFRA.

Installing Communications Equipment at FRZ and SFRA Airports, Sec 760 (c) (1)

Pre-Site Survey Considerations

- **Required infrastructure**: Does the site require an antenna tower and support structure to be built? Can an antenna be mounted to an existing structure and is there existing space for ancillary equipment?
- **Land/Leasing Requirement**: The FAA must either lease land from each airport for the infrastructure installation or lease existing infrastructure for equipment installation and operation.
- **Frequency Availability:** If the site does not have an exiting assigned VHF frequency, a Spectrum analysis must be conducted to determine frequency availability. VHF spectrum may be limited due to frequency congestion in the DC Metro area.

Benefits & Challenges

- **Benefit**: Increased communication capability for pilots operating within the SFRA/FRZ.
- **Challenge**: Significant cost per operation versus operational gain.
  - The estimated cost per operation, considering both one-time installation cost (including an engineering study) and the sustainment costs over a 10-year period, is approximately $1,000 per operation.

Cost Analysis

Equipment Cost for Six Airports		
	Per Airport	Total
6 poles + construction	$100,000	$600,000
8 control RCE + 6 remote RCE	$0	$0
8 (64kbs) lines with tdm-ip	$400,000	$2,400,000
24 radios	$85,000	$510,000
3 set of ancillary/incidentals	$50,000	$300,000
Total One-Time Cost	**$635,000**	**$3,810,000 (~4$M)**
Average Annual Sustainment Cost	**$23,000**	**$138,000**

Remaining Actions

- Solicitation of Interagency stakeholder feedback, including TSA and other federal agencies, on security impacts and operational benefits.
- Further technical assessment of frequency congestion and feasibility.

Feasibility of Implementing Electronic Flight Plan Filing for FRZ Operations, Sec 760 (c) (a) (2) (3)

Feasible Courses of Action

- **Develop an FAA-Owned System:** Create a new FAA-managed system for electronic filing of FRZ flight plans with secure PIC verification, which might be more manpower-intensive but could be more cost-effective than adapting third-party software.
- **Adapt Third-Party Software:** Provide to third-party flight planning software providers a standard/protocol to include electronic PIC verification and transmission capabilities.
- **Neither option is funded under the current resource allocation.**

Feasibility & Considerations

- **Developing an FAA-Owned System**: Offers full control and customization with potentially lower costs but would demand significant staffing resources.
- **Adapting Third-Party Software**: Leverages existing infrastructure but presents integration and data security challenges. Additionally, it may be costly given the relatively small number of airports that would benefit from this capability, and third-party vendors may not be interested.
- **Consideration**: Potential increased Communications Security (COMSEC) vulnerability due to transmission of PIC over the open air. Digital encryption and transmission would drive higher FAA and aircraft equipage costs.

Regulatory Considerations

- **14 CFR Part 93:** Defines SFRA/FRZ as National Defense Airspace to facilitate the tracking of, and communication with, aircraft to deter persons who would use an aircraft as a weapon, or as a means of delivering weapons, to conduct an attack on persons, property, or buildings in the area.
- **ZDC NOTAM 4/2565:** Details the existing requirement for PIC transmission via phone and would need modification to allow electronic submission for FRZ flight plans.

Potential Next Steps

- Determining finer granularity on the cost estimate associated with system development.

Conclusions

Key Findings for SFRA/FRZ Operations

- **Operational Feasibility:**
  - Implementing the proposed communication improvements for FRZ/SFRA airport operations is technically feasible but is not possible at current appropriation levels.
  - Implementing the proposed electronic flight planning is technologically feasible but would likely introduce unnecessary national security risks within the FRZ. Furthermore, development of the required technology is not possible at current appropriation levels.
  - Due to the low density of operations, a solid business case cannot be made to justify further development or additional funding for leveraging digital capabilities.
- **Security Implications:**
  - Current methods (e.g., PIC verification via telephone) offer a higher level of security compared to transmitting this sensitive information over VHF radio, which could expose it to potential cyber risks.
- **Financial Feasibility:**
  - The expenses for engineering studies, equipment installations, and sustainment are considerable and not accounted for in the current FAA resource allocation. Averaging these costs over ten years results in approximately $1,000 per operation. This high expense stands in stark contrast to the relatively small number of users who would benefit.