

## ASRS Database Report Set

# Penetration of Prohibited Airspace Incidents

---

Report Set Description.....	A sampling of reports that reference unauthorized entry into prohibited or restricted airspace.
Update Number.....	27.0
Date of Update .....	March 28, 2019
Number of Records in Report Set.....	50
Number of New Records in Report Set .....	2
Type of Records in Report Set.....	For each update, new records received at ASRS will displace a like number of the oldest records in the Report Set, with the objective of providing the fifty most recent relevant ASRS Database records. Records within this Report Set have been screened to assure their relevance to the topic.

National Aeronautics and  
Space Administration

**Ames Research Center**  
Moffett Field, CA 94035-1000



TH: 262-7

**MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data**

**SUBJECT: Data Derived from ASRS Reports**

The attached material is furnished pursuant to a request for data from the NASA Aviation Safety Reporting System (ASRS). Recipients of this material are reminded when evaluating these data of the following points.

ASRS reports are submitted voluntarily. The existence in the ASRS database of reports concerning a specific topic cannot, therefore, be used to infer the prevalence of that problem within the National Airspace System.

Information contained in reports submitted to ASRS may be amplified by further contact with the individual who submitted them, but the information provided by the reporter is not investigated further. Such information represents the perspective of the specific individual who is describing their experience and perception of a safety related event.

After preliminary processing, all ASRS reports are de-identified and the identity of the individual who submitted the report is permanently eliminated. All ASRS report processing systems are designed to protect identifying information submitted by reporters; including names, company affiliations, and specific times of incident occurrence. After a report has been de-identified, any verification of information submitted to ASRS would be limited.

The National Aeronautics and Space Administration and its ASRS current contractor, Booz Allen Hamilton, specifically disclaim any responsibility for any interpretation which may be made by others of any material or data furnished by NASA in response to queries of the ASRS database and related materials.

A handwritten signature in cursive script that reads "B Hooley".

Becky L. Hooley, Director  
NASA Aviation Safety Reporting System

## CAVEAT REGARDING USE OF ASRS DATA

Certain caveats apply to the use of ASRS data. All ASRS reports are voluntarily submitted, and thus cannot be considered a measured random sample of the full population of like events. For example, we receive several thousand altitude deviation reports each year. This number may comprise over half of all the altitude deviations that occur, or it may be just a small fraction of total occurrences.

Moreover, not all pilots, controllers, mechanics, flight attendants, dispatchers or other participants in the aviation system are equally aware of the ASRS or may be equally willing to report. Thus, the data can reflect **reporting biases**. These biases, which are not fully known or measurable, may influence ASRS information. A safety problem such as near midair collisions (NMACs) may appear to be more highly concentrated in area “A” than area “B” simply because the airmen who operate in area “A” are more aware of the ASRS program and more inclined to report should an NMAC occur. Any type of subjective, voluntary reporting will have these limitations related to quantitative statistical analysis.

One thing that can be known from ASRS data is that the number of reports received concerning specific event types represents the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 881 reports of track deviations in 2010 (this number is purely hypothetical), then it can be known with some certainty that *at least* 881 such events have occurred in 2010. With these statistical limitations in mind, we believe that the **real power** of ASRS data is the **qualitative information** contained in **report narratives**. The pilots, controllers, and others who report tell us about aviation safety incidents and situations in detail – explaining what happened, and more importantly, **why** it happened. Using report narratives effectively requires an extra measure of study, but the knowledge derived is well worth the added effort.

# Report Synopses

ACN: 1629713 *(1 of 50)*

#### Synopsis

UAV operator reported violation of a TFR.

ACN: 1628813 *(2 of 50)*

#### Synopsis

Tower Controller reported an NMAC that was attributed to procedures that were not clear to the reporter relating to a TFR and go-around procedures.

ACN: 1604809 *(3 of 50)*

#### Synopsis

GA Pilot reported nonstandard TFR dissemination resulting in TFR violation.

ACN: 1591597 *(4 of 50)*

#### Synopsis

Drone operator reported penetrating Class D airspace.

ACN: 1588688 *(5 of 50)*

#### Synopsis

UAV operator reported possible operation in Class C airspace.

ACN: 1587031 *(6 of 50)*

#### Synopsis

CRJ-900 flight crew reported a track deviation and a restricted airspace incursion resulted when the FMC malfunctioned.

ACN: 1584265 *(7 of 50)*

#### Synopsis

B737 flight crew reported departing SJC after the tower had closed, but without a release form NorCal TRACON.

ACN: 1581670 *(8 of 50)*

#### Synopsis

Lancair ES pilot reported penetrating a TFR resulting in an airborne conflict with skydivers.

ACN: 1576558 *(9 of 50)*

## Synopsis

GA pilot reported becoming disoriented and committing several airspace violations.

ACN: 1571346 *(10 of 50)*

## Synopsis

Cessna 182 pilot reported experiencing intermittent "lost GPS signal" alerts while attempting to avoid Class B airspace and significant weather.

ACN: 1568247 *(11 of 50)*

## Synopsis

Cessna pilot reported a TFR was not displayed on the preflight TFR map or on the aircraft GPS, resulting in a possible airspace violation.

ACN: 1505967 *(12 of 50)*

## Synopsis

PCT TRACON Controller reported assigning a heading to an aircraft that caused it to enter prohibited airspace.

ACN: 1488262 *(13 of 50)*

## Synopsis

GA flight instructor reported that K90 TRACON was concerned about his flight lesson near a nuclear power plant.

ACN: 1483881 *(14 of 50)*

## Synopsis

A Cessna 172 pilot reported that due to severe weather conditions he inadvertently flew into a TFR.

ACN: 1478689 *(15 of 50)*

## Synopsis

Bell Jet Ranger pilot reported losing communications with ATC, and inadvertently penetrating VIP TFR.

ACN: 1478083 *(16 of 50)*

## Synopsis

ZOA Center controller reported that a sectors' workload has become unmanageable resulting in delays and aircraft conflicts due to the variety of traffic situations and equipment limitations.

ACN: 1476522 *(17 of 50)*

### Synopsis

EMB-145 First Officer reported that a malfunctioning Lateral Navigation mode caused a course deviation on departure and reversion to a raw data, hand-flown approach.

ACN: 1476515 *(18 of 50)*

### Synopsis

Air carrier flight crew reported a procedural deviation while departing Washington National Airport (DCA) which resulted in the penetration of Prohibited Area P-56.

ACN: 1473843 *(19 of 50)*

### Synopsis

Piper pilot was told to call Approach Control after being vectored away from a TFR and into the Class Bravo.

ACN: 1473567 *(20 of 50)*

### Synopsis

Center Controller reported confusion when the Front Line Manager walked by and said some airspace was going hot, but did not know which airspace.

ACN: 1472448 *(21 of 50)*

### Synopsis

PA28 pilot reported he flew through a TFR and was intercepted by an F16.

ACN: 1471241 *(22 of 50)*

### Synopsis

Five Boston Center Controllers reported a loss of separation when a flight of aircraft were descended through an aircraft's altitude.

ACN: 1471203 *(23 of 50)*

### Synopsis

C210 pilot reported being intercepted by a military jet and instructed to land at the departure airport. He was informed that he had violated a presidential TFR.

ACN: 1471135 *(24 of 50)*

### Synopsis

A corporate pilot reported turning away from the Mexico ADIZ airspace after being unable to contact the Center due to frequency congestion.

ACN: 1460370 *(25 of 50)*

### Synopsis

ZMP ARTCC Controller reported problems with aircraft related to Temporary Flight Rules (TFR), aircraft intercept and losing a data tag on aircraft involved.

ACN: 1457725 *(26 of 50)*

### Synopsis

An air carrier flight crew and PCT TRACON Controller described their respective actions when the aircraft became NORDD then flew through P-56 after one of the flight crew inadvertently changed the COM 1 frequency.

ACN: 1453252 *(27 of 50)*

### Synopsis

Air carrier Captain reported possible entry into P-56 while departing DCA Runway 1.

ACN: 1453028 *(28 of 50)*

### Synopsis

GA pilot reported being intercepted after violating the DC SFRA due to inadequate flight planning preparation.

ACN: 1450891 *(29 of 50)*

### Synopsis

Air carrier flight crew reported entering prohibited airspace on departure from DCA due to an improper instrument set up prior to departure. ATC corrected the flight's assigned heading.

ACN: 1440849 *(30 of 50)*

### Synopsis

GA pilot reported penetrating a stadium TFR in the Hudson River SFRA due to lack of familiarity with the Garmin Pilot display and overlooking currency of TFR information.

ACN: 1439008 *(31 of 50)*

### Synopsis

R22 instructor pilot reported that after landing they were asked to meet with Federal officials for busting a TFR.

ACN: 1438942 *(32 of 50)*

### Synopsis



GA pilot reported a firefighting TFR incursion while trying to avoid another TFR in the area. When the pilot was in the TFR another aircraft formed up on him without communication, then departed after a few seconds.

ACN: 1431500 *(33 of 50)*

### Synopsis

An air taxi pilot was informed by another pilot in the traffic pattern at KFP that he should be on a DVFR flight plan since the airport is 10 NM into the Alaskan ADIZ.

ACN: 1426251 *(34 of 50)*

### Synopsis

GA pilot reported researching a planned TFR and believe was successful in avoiding it, but was advised by ATC of a possible pilot deviation.

ACN: 1424783 *(35 of 50)*

### Synopsis

Traffic watch pilot reported entering a TFR on correct code and was later questioned by ATC as to not having a clearance into the TFR.

ACN: 1422587 *(36 of 50)*

### Synopsis

GA pilot reported he flew into a POTUS TFR and was intercepted.

ACN: 1419164 *(37 of 50)*

### Synopsis

ERJ-170 flight crew reported an incursion into P56 during a go-around after encountering wind shear on approach to DCA.

ACN: 1418426 *(38 of 50)*

### Synopsis

A King Air 300 flight crew reported nearly flying into an active missile launch zone. The crew commented that there were no NOTAMs or other common alerts informing crews before takeoff. ATC was able to keep the flight clear of the airspace.

ACN: 1409840 *(39 of 50)*

### Synopsis

Air carrier First Officer reported multiple issues while operating in winter conditions in an attempt to land at DCA. First approach required a go-around but the second approach was successful.

ACN: 1405965 (40 of 50)

### Synopsis

A UAS pilot reported that he discovered after his flight that a nearby TFR had been expanded to include the area of his previous operation.

ACN: 1402009 (41 of 50)

### Synopsis

Flight Crew and Controller reported of the flight being off course and entering Restricted Area P-56. Controller reported of aircraft being below the Minimum Vectoring Altitude and needing to vector aircraft out of P56. Pilot reported of improperly identifying the Potomac River and the aircraft to follow.

ACN: 1399126 (42 of 50)

### Synopsis

GA pilot reported being informed after landing that he had flown through a TFR over MCO that he was not aware of. He had relied on TFR notifications via e-mail which he did not receive and no record of the TFR could be found on the FAA website.

ACN: 1395143 (43 of 50)

### Synopsis

During cruise, on an IFR flight plan, the pilot of a Piper Arrow PA28R-180 reported noticing he was losing electrical power. The pilot continued to his destination VFR while using a handheld radio to communicate with ATC.

ACN: 1394042 (44 of 50)

### Synopsis

A DJI Phantom UAS pilot launched after checking diligently for TFR and controlled airspace. However, after takeoff his DJI phone app alerted his aircraft proximity to SLC Class B. The UAS flight was aborted.

ACN: 1391305 (45 of 50)

### Synopsis

C180 floatplane pilot reported encroaching on a sports TFR during evasive action in response to an NMAC.

ACN: 1390834 (46 of 50)

### Synopsis

NCT TRACON Controller reported of problems with the size of a fire fighting TFR.

ACN: 1388723 *(47 of 50)*

### Synopsis

PA32 pilot reported possibly entering a firefighting TFR near LVK. The TFR may have been created after his initial DUATS briefing and did not show up on XM weather or ADS-B.

ACN: 1373869 *(48 of 50)*

### Synopsis

Joint Control Facility (Edwards) TRACON Controller reported of a TFR that was not updated and the reporter did not know the exact position. Reporter eventually had to look up coordinates and then advise others.

ACN: 1371871 *(49 of 50)*

### Synopsis

GEG TRACON Controller reported being unaware that an organization was conducting a powered parachute event in their airspace.

ACN: 1322662 *(50 of 50)*

### Synopsis

Flight of two helicopters with two GPS sources flew a course 2 miles outside the Washington DC SFRA, yet PCT TRACON claimed the aircraft was inside the SFRA by two miles.

# Report Narratives

## Time / Day

Date : 201903  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Altitude.AGL.Single Value : 385

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility.Visibility : 20

## Aircraft

Reference : X  
Make Model Name : UAV - Unpiloted Aerial Vehicle  
Operating Under FAR Part.Other  
Airspace.TFR : ZZZ

## Person

Reference : 1  
Reporter Organization : Personal  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Flight Engineer  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 24000  
Experience.Flight Crew.Last 90 Days : 150  
Experience.Flight Crew.Type : 100  
ASRS Report Number.Accession Number : 1629713  
Human Factors : Confusion  
Human Factors : Time Pressure

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Other Person  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

Drone flight into TFR. I forgot about the temporary flight restriction for the area and flew my DJI Inspire 2. I was fully aware of the TFR and the day prior had briefed production so we would avoid the area. Our plan was to film at [a] university and two other locations near the campus midtown area, not [in the TFR location]. All three locations were permitted. I filed the required campus flight plan with Icarusmap.com. I had my insurance put [the university] on the COI (Certificate of Insurance).

Here is the background of my forgetting about the [TFR]. Two days prior, production had switched our shoot from Florida to [another state] due to client cancelation. So I had to change my plans overnight. This meant checking the airspace for authorization, which I did. The plan was to catch the morning light so we met [early] in the lobby of our hotel. It was an overcast day so we called off the shoot for the morning and hoped for sun later. [Around mid-morning] the sun came out so we hustled into the van. Our team was pilot in command (me), show runner/producer and a driver. As we started from the hotel the producer liked the light on the buildings and asked if we could do a quick reveal shot. Without remembering the TFR I agreed, and we set up and launched quickly for a short 10 minute flight. It was VFR weather, VLOS (Visual Line of Sight), not over people, under 400 feet. I had a camera operator and spotter. Later while we were coordinating with Campus police, they informed us about the VIP arriving [nearby], which was going to cause highway congestion. This is when I remembered the TFR.

I am disappointed with myself for this mistake. I have been a commercial airline pilot for over 20 years and take pride in my safety record. Running my drone business has been a learning experience, which means I need to be even more cautious. I am changing my preflight checklist to include opening the app to ensure there have been no changes to the airspace, that I am in compliance, and most importantly, so this will not happen again.

## Synopsis

UAV operator reported violation of a TFR.

## Time / Day

Date : 201903  
Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZZZ.Tower  
State Reference : US

## Aircraft : 1

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Government  
Make Model Name : Military  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : VFR  
Route In Use : Visual Approach  
Airspace.Class C : ZZZ

## Aircraft : 2

Reference : Y  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Government  
Make Model Name : Military  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : VFR  
Airspace.Class C : ZZZ

## Person

Reference : 1  
Location Of Person.Facility : ZZZ.Tower  
Reporter Organization : Government  
Function.Air Traffic Control : Other / Unknown  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 7  
ASRS Report Number.Accession Number : 1628813  
Human Factors : Communication Breakdown  
Human Factors : Training / Qualification  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : ATC  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Conflict : NMAC  
Anomaly.Deviation - Procedural : Published Material / Policy  
Detector.Person : Air Traffic Control

When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Procedure

## Narrative: 1

Today, [an aerial demonstration team was] practicing for the air show. Their TFR significantly encroached on our airspace leaving us with no room for go-arounds. Aircraft X went around on his own and got VERY close to one of the [aerial demonstration team's aircraft]. I don't know how close, but if I were able to file an NMAC, I would.

None of this was briefed to us. We had no idea what the procedures were supposed to be while this TFR was in effect. We were using Runway 29 for arrivals and Runway 21 for departures, but we had to figure that out for ourselves. We were playing completely by ear and pretty much just hoping to get through the demo. Two controllers worked well over two hours in position and one controller stayed late because he had no one to relieve him. The TFR also was not reflected in the NOTAMs. A TFR that didn't really affect us was [in the NOTAMs], but the one that was in effect was not, at least to my knowledge.

This seems pretty obvious. When something like an air show is imminent, the controllers should receive thorough briefings on the temporary procedures and be given the opportunity to express concerns and ask questions.

## Synopsis

Tower Controller reported an NMAC that was attributed to procedures that were not clear to the reporter relating to a TFR and go-around procedures.



## Time / Day

Date : 201812  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : MHV.Airport  
State Reference : CA  
Relative Position.Angle.Radial : 200  
Relative Position.Distance.Nautical Miles : 6  
Altitude.MSL.Single Value : 4000

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility.Visibility : 20  
Light : Daylight  
Ceiling.Single Value : 12000

## Aircraft

Reference : X  
ATC / Advisory.TRACON : JCF  
Aircraft Operator : Personal  
Make Model Name : Small Aircraft  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : None  
Mission : Personal  
Flight Phase : Cruise  
Route In Use : Direct  
Airspace.Class D : MHV  
Airspace.TFR : ZZZ

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Single Pilot  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Commercial  
Experience.Flight Crew.Total : 6000  
Experience.Flight Crew.Last 90 Days : 10  
Experience.Flight Crew.Type : 800  
ASRS Report Number.Accession Number : 1604809  
Human Factors : Human-Machine Interface  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC  
Analyst Callback : Attempted

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Flight Crew : Exited Penetrated Airspace  
Result.Air Traffic Control : Issued New Clearance

## Assessments

Contributing Factors / Situations : Procedure  
Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Chart Or Publication  
Primary Problem : Procedure

## Narrative: 1

On a VFR flight to L71 at 4000 MSL/1300 AGL I contacted MHV (Mojave) Tower from a position approximately 6 miles SSW of that airport for permission to transit their Class C airspace. The Tower Controller inquired if I was aware of a TFR which impacted their facility. I was not, and although I had both ForeFlight fed by ADS-B/in running on an iPad and a GPS with XM weather, both of which display TFRs, neither was showing any. Uncertain what the situation was, I immediately reversed course and on the advice of the Tower Controller contacted Joshua Approach, who also seemed somewhat uncertain about the status of the TFR, but after some consultation with his supervisor advised me he could clear me through to my destination if I could complete the flight within 15 minutes. I could and he did. While I do not believe I initially penetrated the TFR prior to contacting the Tower Controller and was subsequently cleared through it by Joshua, some days later I received a phone call from a friend who in turn had spoken casually with another individual who asked if he knew [my name] flying [aircraft N-number] and said he had noted my ADS-B return inside the TFR. Hence this report. The situation was somewhat unusual as I have come to depend on the "live" airspace depictions and find them very dependable. I suspect the TFR was somehow not distributed in the same way as normal TFRs. In any case, I will start making it a habit to download a formal briefing.

## Synopsis

GA Pilot reported nonstandard TFR dissemination resulting in TFR violation.

## Time / Day

Date : 201809  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Altitude.AGL.Single Value : 75

## Environment

Flight Conditions : VMC  
Light : Daylight

## Aircraft

Reference : X  
Make Model Name : UAV - Unpiloted Aerial Vehicle  
Operating Under FAR Part.Other  
Flight Plan : VFR  
Mission : Photo Shoot  
Airspace.Class D : ZZZ

## Person

Reference : 1  
Location Of Person : Company  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Commercial  
Experience.Flight Crew.Total : 30  
Experience.Flight Crew.Last 90 Days : 2  
Experience.Flight Crew.Type : 30  
ASRS Report Number.Accession Number : 1591597  
Human Factors : Confusion

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Other Person  
When Detected.Other  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

Looked at airspace on the morning and saw Temporary flight restrictions and was notified the temporary restriction was removed early that morning. Later when flights were reviewed it appears I penetrated controlled airspace in my inspection without prior

authorization. In review with drone coordinator, it appears I confused the TFR with the Class D Controlled Airspace for ZZZ. I have updated my airspace software to prevent from future incursions.

## Synopsis

Drone operator reported penetrating Class D airspace.

## Time / Day

Date : 201810

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 100

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Other

Light : Daylight

Ceiling : CLR

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : UAV - Unpiloted Aerial Vehicle

Flight Plan : VFR

Mission : Personal

Route In Use : Visual Approach

Airspace.Class C : ZZZ

## Person

Reference : 1

Location Of Person : Hangar / Base

Reporter Organization : Personal

Function.Flight Crew : Pilot Not Flying

ASRS Report Number.Accession Number : 1588688

Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR

Detector.Person : Other Person

When Detected : Routine Inspection

Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

This pertains to a small UAV flight near [the] State University. We took all usual protocols & procedures to check airspace and confirm we are clear to safely fly. For this particular flight, we checked to confirm we were outside of the Class C airspace of ZZZ Airport and

checked for TFR's in the area - all came back clear. However, we may have flown in or near the Class C airspace during this brief flight and it was discovered after flight was over. Moving forward, we will use <https://skyvector.com/> and <https://uas-faa.opendata.arcgis.com/> to check instead of B4UFly app.

## Synopsis

UAV operator reported possible operation in Class C airspace.

## Time / Day

Date : 201810  
Local Time Of Day : 0601-1200

## Place

Locale Reference.ATC Facility : ZZZ.TRACON  
State Reference : US  
Altitude.AGL.Single Value : 1000

## Environment

Flight Conditions : VMC  
Light : Night

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : Regional Jet 900 (CRJ900)  
Crew Size.Number Of Crew : 2  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Climb  
Airspace.Class B : ZZZ

## Component

Aircraft Component : FMS/FMC  
Aircraft Reference : X  
Problem : Malfunctioning

## Person : 1

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1587031  
Human Factors : Confusion  
Human Factors : Situational Awareness

## Person : 2

Reference : 2  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1587032  
Human Factors : Confusion  
Human Factors : Situational Awareness

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Clearance  
Anomaly.Deviation - Procedural : Published Material / Policy  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented  
Result.Flight Crew : Overcame Equipment Problem

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Human Factors  
Primary Problem : Aircraft

## Narrative: 1

While at the gate all normal procedures and briefings occurred. It was my leg to fly. While I programming the FMS, the Captain assisted in programming the MFD Menu and the Radio portion of the "J" pattern. While doing this, he was in the Radio portion of the programming and attempting to place Nav1 and Nav2 into "Auto" mode, however, he was unable to place my Nav2 into Auto since my side was still in green needles from the previous crew. I took the Nav Source knob and turned it fully clockwise to the right to get back into FMS white needles. The Captain then proceeded to place Nav1 and Nav2 into Auto. The briefing occurred with details discussing the complex special engine out procedure, the heading bug was set to 332 degrees, a 2.5 fix ring around [a fix] was entered for a visual reminder of the engine out turn, the climbout discussed, a review of the two Prohibited airspaces and the need to remain clear was also reviewed. I went through a full briefing.

The taxi to the runway was uneventful and had no delays. The takeoff was a flaps 20, full thrust takeoff with V2+10 to 1000 feet. After rotation and calling for speed mode/NAV mode and at 400 feet the FD did not indicate a turn to 332 degrees. Within seconds and climbing through 600 feet, I called "Autopilot On" and the Captain did so. It was engaged and NAV mode was active in the FMA. I recognized that with the AP engaged and NAV active in the FMA that the aircraft was still not turning and the FD also did not indicate a turn. At the same time I was recognizing this and quickly reassessing to ensure the AP and FMA was configured properly, which it was. The Captain said that the turn was not occurring for some reason and to switch to HDG mode, and turn left to 320 degrees. He referenced that the AP was not responding and to disregard the NAV mode issue for now and that we can figure that out later after we climb out. The Captain spun the HDG bug to about 320 and I hit the HDG on the ACP and HDG became active in the FMA and was confirmed. The aircraft seemed like it did not initially respond to the turn and finally responded at a slow rate. This scenario with a westerly strong wind in the air resulted in encroaching upon [a restricted area].

After [resuming] on course, I continued to fly the SID with the AP engaged, in HDG mode



and by referencing the FMS map on the MFD until we could figure out the navigation/autopilot issue. Shortly later, the Captain noticed the PFD showed no data in the FMS area and that the white needles had disappeared. I confirmed this fact and then I took the NAV Source knob, clicked it one click counterclockwise, then one click clockwise to reset my FMS back to white needles. The flight then continued on course with no further FMS anomalies.

The cause of this FMS/AP anomaly is unknown. This is no precursor, there is no warning, it simply occurred without reason. This is the second anomaly that I have experienced. The first anomaly was reported [a few months ago]. This was another automation anomaly in which climbing through FL250 at 290 knots with the AP engaged. Again for no reason and without any input, the bugged airspeed automatically changed from 290 knots to 140 knots. This was recognized by the PF and caught as the aircraft pitch rapidly increased and airspeed rapidly decreased. [Company] reported that they would pull all the data from the flight, however, after a week, they called to inform me that the data was lost from the aircraft as it was a newly acquired plane and the data was not pulled. They also acknowledged that they have heard of this anomaly three other times.

I discussed this FMS/AP/white needle/loss of data with Chief Pilot. During this conversation, [the Chief Pilot] explained that he too had experienced this anomaly during a cruise portion of a flight in the past similar to what we experienced. There simply is no explanation of what, why or how these happen. They just do and we have to be vigilant to catch them when one occurs.

It is easy to sit back in a chair after the [fact] and think about what we could have done or should have done. It is also easy for other pilots to suggest other actions. However, things are a bit different when in the cockpit. As we have many other complex departures in our system, we are conditioned to rely heavily on the RNAV procedure and the use automation for accuracy. When an issue arises when using automation, we can usually and quickly fix it - whether it is the HDG button that wasn't pushed all the way, or AP wasn't actually engaged, or the FMS has to be executed, etc. If the autopilot is not reacting immediately, we typically will not quickly disengage the autopilot and hand fly on a complex departure. After all the hundreds of flights we do, and if the automation is not doing what we anticipate it should be doing, we will attempt to quickly assess the situation and attempt to correct the automation which is generally pilot error. In this case, it was not pilot error, but rather, another anomaly. In an attempt to correct what should have been a simple automation issue, it could not be quickly corrected as it was verified twice that the configuration of the AP and its active modes were what it should have been. During this attempt to solve this issue, the aircraft continued on its straight-ahead flight path and with a strong westerly wind aloft, pushed us east and closer to [the restricted area]. Once realized that an anomaly occurred, the NAV mode was deselected and HDG made active.

Three things have been learned. Firstly, future briefings will include the discussion that if something with the automation is not doing what we expect, we will disengage the AP and hand fly with a left turn to stay west of the Prohibited areas and not to attempt to correct the AP/FMA/FMS. Secondly, a quick call to ATC to advise them that we are starting the turn could have prevented any security issue with encroaching [the restricted area] as they have acknowledgment from the crew.

Lastly, the anomaly should have been written up. Both the Captain and I discussed writing up the anomaly, especially since we likely encroached the [restricted area] airspace. However, after discussion of the fact that the remainder of the flight occurred without incident, that there were no indications of any further anomalies, that the flight did not

have to be delayed with a write-up which likely could not be duplicated, to not delay the subsequent flight, and that it could be conducted safely as all systems were functioning normal, the anomaly was not written up. Returning [to base], the anomaly occurred during the approach and it was written up. We waited until Maintenance arrived to discuss and to look over the onboard data logs and as expected, because the system does not record these anomalies, it could not be duplicated and no fault found.

## Narrative: 2

[Report narrative contained no additional information.]

## Synopsis

CRJ-900 flight crew reported a track deviation and a restricted airspace incursion resulted when the FMC malfunctioned.

## Time / Day

Date : 201810

Local Time Of Day : 0001-0600

## Place

Locale Reference.Airport : SJC.Airport

State Reference : CA

Altitude.MSL.Single Value : 1500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Night

Ceiling : CLR

## Aircraft

Reference : X

ATC / Advisory.TRACON : NCT

Aircraft Operator : Air Carrier

Make Model Name : B737 Undifferentiated or Other Model

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Flight Phase : Takeoff

Airspace.Class C : SJC

## Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Last 90 Days : 329

ASRS Report Number.Accession Number : 1584265

Human Factors : Situational Awareness

Human Factors : Confusion

## Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Instrument  
ASRS Report Number.Accession Number : 1584288  
Human Factors : Confusion  
Human Factors : Communication Breakdown  
Human Factors : Situational Awareness  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Flight Deck / Cabin / Aircraft Event : Other / Unknown  
Anomaly.Deviation - Procedural : FAR  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : Clearance  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

The Captain and I were getting ready to push on leg 4/4, [out of SJC], on what had become a pretty long day. The pushback crew was trying to establish communication; the Ops Agent had just given us our [information] sheet which said we had like 25 minutes left to get airborne without a waiver. We had started our first two legs each with mechanical delays, and now were roughly 2.5 hours behind schedule. I tried to get the latest ATIS for push and that's when I realized that people on Tower frequency were making CTAF calls. We were unable to get digital ATIS and had to tune it on the radio. The weather was VFR, 10 SM and clear skies. This made me scratch my head a bit as I hadn't expected the tower to close, although it was [late at night] local time so it was late enough.

There were no specific instructions regarding a closed tower in the Dispatch Release and nothing in our CPDLC which I had gotten 15 minutes earlier while the tower was still open. It then occurred to me that maybe there was some info on the SIP (station information page) regarding CTAF operations. The only reference at all was regarding the curfew - all jet operations prohibited during curfew hours of [early morning period]. Delayed scheduled air carrier flights and alternate/emergency operations excluded from restrictions. That's when the Captain asserted that since we had our CPDLC clearance and departure frequency we should be good to takeoff and talk to departure.

At this point I feel like fatigue was really hampering my decision making ability, because I had a little acorn of doubt in the back of my head that we needed to clarify what exactly we needed to do, but instead of discussing my doubt I just rationalized the Captain's reasoning as good enough and went with it. So we pushed back and I made CTAF calls that we were taxiing to the runway. Initially there was a regional aircraft landing, then a helicopter, and then it was quiet. We approached the hold short and we could see an aircraft on final which our TCAS showed at 5 NM. The Captain said he was going to keep it rolling and I made our final CTAF call announcing our departure saying that we were

making a right turnout, but I flubbed the name of the departure.

It was my leg so he gave me the aircraft and we took off uneventfully. We got the gear up, accelerated, and then at 1500 feet he gave Departure a call. Initially the Controller asked us to squawk identification and then I heard some excitement in his voice when he came back. I can't remember the exact verbiage but something to the extent of "Aircraft X, you can't just take off into controlled airspace without a clearance..." That's when my heart sank. I kept flying the SID but I was mad at myself because I knew I had that nugget of doubt and I could have asserted myself to avoid this situation. As we checked out of NorCal's airspace the Controller gave us a phone number to call for a potential Pilot Deviation.

Looking back at this situation, after having gotten some sleep, I saw a couple of factors that I believe played a role in this occurrence. First, taking off with a closed tower is something I have never done at Company. I've done it at previous jobs, but I always took off VFR and remained VFR, or got my IFR while airborne in VMC, but never from an airport with an overlying Class B airspace. At Company I have landed with a closed tower, but there were specific instructions outlined in the SIP for that airport which made it clear what we needed to do. In our situation, because of the delay, we found ourselves working late at night at an airport where we don't usually fly that late, and no amplifying instructions. I don't know why it didn't dawn on me to address with the Captain the fact that I'd never done this before at Company.

Second, we had received our CPDLC while the tower was still open but nowhere along the way did we realize, or did anybody (Dispatch, Clearance, Tower, etc.) tell us, that the tower would be closed upon departure. I actually had to call Tower and ask them to resend my CPDLC because it dropped out of our box. He said ok, and did so, but didn't mention he would be closing soon. I'm in no way trying to shift any blame, but it seems that somebody could have given us a heads up. Who knows, maybe tower did try to call? I wasn't actively monitoring them on the speaker so I don't know if they did.

Third, as I mentioned before, I was tired and that impacted my ability to scrutinize this situation. We had been on duty for roughly 10 hours at this point. I was up early with my family and was running on fumes at this point in the night. As we were arriving into SJC the Captain and I were discussing our fatigue level, but neither of us said that we were unfit to continue. Maybe a bit of "get-there-itis" paired with "we can make this happen." I've read all the stats that are put out about fatigue, and I know they're true, but honestly I've just not had all that many situations where the effects of fatigue have caused something like this to happen to me. It's pretty eye opening and I feel like we really should have talked more about it as a crew.

Fourth, I should have been more familiar with information available to me from Company publications. After the fact I have since gone back and found where this situation is discussed in the FOM. I had never read it before. While it does state clearly that we needed to get a clearance time/void time, we didn't necessarily fit the exact parameters of either paragraph regarding closed tower operations, and the SIP had no amplifying information, but, it is something that I could have been more familiar with. Additionally, although what we did was not directly in line with the FOM, I'm still not exactly sure if/how it was illegal. As far as I know we took off from Class E airspace in VMC and contacted ATC at 1,500 feet, never entering any controlled airspace.

Lastly, and I've already fessed up to this, but I should have spoken up, plain and simple. There was that little bit of doubt in the back of my brain that said something wasn't quite

right here but I chose to bury it and press. Being more assertive and a better communicator could have easily stopped this bit of Swiss cheese from aligning and allowing the outcome. A call to Dispatch or to NorCal would have been easy enough, and free, and I wouldn't have to spend all this time discussing my day.

## Narrative: 2

Arriving SJC was uneventful. Prior to departing SJC, the First Officer called ATC to resend our pre-departure clearance as we did not receive it via CPDLC.

They resent and we received it immediately. Very soon thereafter listening to the Tower frequency at push time we realized the Tower was now closed as we were hearing traffic advisories from GA aircraft in the pattern and on the airport at SJC. For us, the Crew, it was the middle of the night. We were 11.5 hours into our duty day with one more leg to fly. Any more delays and we were encroaching on duty limits. I had searched the SJC SIP and there were no references to the Tower closing. There is a curfew mentioned from 2330-0630 local time for aircraft operations with an exclusion for delayed air carrier flights. Finding no references for departing when the Tower was closed it was my intention to depart VMC and obtain our clearance with NorCal on departure.

We made Traffic Advisories for our pushback, taxi, and takeoff. As PM I contacted NorCal at 1500 feet. He was not happy to say the least. He said we could not depart without a Release. I mentioned the Tower was closed. Again it was my intention to depart VMC and obtain our clearance with NorCal on departure. He was still obviously not satisfied with this.

Handing us off to OAK Center, he gave me a phone number to call for "possible Pilot Deviation." I called the number when I got to my hotel room. The person on the other end stated the same that we needed a Release before departure. He took my name, Pilot Certificate number, phone number, and home address.

I used to do this previously at another air carrier quite frequently with no issues whatsoever. And yes it was many years ago. Once you dig it up, in our FOM states that yes we do need to get an IFR clearance (to include VOID time) from FSS, Departure Control, or En Route Center via telephone or radio. The very next paragraph same page, Departing VFR states that yes we can depart VFR provided we have VMC, maintain VMC on departure, and obtain clearance as soon as practical but no farther than 50 NM from departure airport. After sifting through the FOM in the quietness of my room I realize I should have obtained a void time through SFO Radio or other means.

Clearly, in the heat of the battle, it was not so clear. The paragraph I could recall is the one that allows departure in VMC conditions and obtaining clearance with Departure Control. I would like to conclude this with my observations and suggestions. (Next paragraph-Preventative Measures) Please do not take this as finger pointing or deferring blame/fault in any way at any level. The blame /fault rests entirely with (ME) the Captain's Responsibilities.

## Synopsis

B737 flight crew reported departing SJC after the tower had closed, but without a release from NorCal TRACON.

## Time / Day

Date : 201809

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Relative Position.Distance.Nautical Miles : 4

Altitude.MSL.Single Value : 3000

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : ZZZ

Aircraft Operator : Personal

Make Model Name : Lancair ES

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Training

Flight Phase : Final Approach

Route In Use : None

Airspace.Class E : ZZZ

Airspace.TFR : ZZZ

## Aircraft : 2

Reference : Y

Make Model Name : Beechcraft King Air Undifferentiated or Other Model

Mission : Skydiving

Airspace.Class E : ZZZ

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 1970

Experience.Flight Crew.Last 90 Days : 40

Experience.Flight Crew.Type : 1226

ASRS Report Number.Accession Number : 1581670

Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Conflict : Airborne Conflict  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Bird / Animal  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was flying practice approaches for currency in and around ZZZ airport. I was briefed and was aware of the TFR over ZZZ1 for an air show. I was flying a practice GPS XX approach. I selected the GPS XX approach as it was on the opposite side of the airport from the TFR. I was communicating and monitoring the UNICOM frequency. I announced my position multiple times. When I was on short final, a King Air suddenly appeared on downwind for Runway XY [opposite direction] and announced his intention to land on XY, despite me having announced multiple times that I was on short final for XX. My attention was on the King Air when I glanced up and saw a windshield full of skydivers. I immediately began evasive action, turning first to the left so as to pass behind the King Air. However, I realized that turning left limited my visibility of the skydivers, so I then proceeded to turn back right parallel to the runway so I could see the skydivers. I also began a climb. I was very shaken by the event. By the time I composed myself and stopped looking for skydivers, I looked at my MFD and realized I had penetrated the TFR. I immediately executed a steep turn to the right to exit the TFR space. At the same time I switched from the UNICOM frequency to 121.5. About 20 seconds later I got a call on 121.5 from ATC. I described the situation to him, and was given a number to call.

My penetration of the TFR was inadvertent and a result of the emergency situation with the skydivers. I believe my actions were justified, as avoiding contact with a skydiver was my priority during the emergency. I believe the King Air that appeared had been carrying the skydivers and made no attempt on UNICOM to inform me of their presence. I exited the TFR promptly on my own volition once the emergency situation had resolved itself.

## Synopsis

Lancair ES pilot reported penetrating a TFR resulting in an airborne conflict with skydivers.



## Time / Day

Date : 201809

Local Time Of Day : 0601-1200

## Place

Locale Reference.ATC Facility : SCT.TRACON

State Reference : CA

Altitude.MSL.Single Value : 11500

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.FSS : PRC

Aircraft Operator : FBO

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 128

Experience.Flight Crew.Last 90 Days : 15

Experience.Flight Crew.Type : 4

ASRS Report Number.Accession Number : 1576558

Human Factors : Communication Breakdown

Human Factors : Confusion

Human Factors : Situational Awareness

Human Factors : Training / Qualification

Human Factors : Fatigue

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Detector.Person : Flight Crew

When Detected : In-flight  
Result.Flight Crew : Became Reoriented  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

While planning a flight westbound from the Phoenix area to the LA Basin I had copied down the controlling agencies and frequencies for restricted areas as well as MOAs along my intended route of flight. Also recorded were the flight service contacts on their respective VORs.

West of the BUCKEYE VOR, I identified and verified the BARD VOR and flew a course through several restricted areas since I had made an error in my preflight planning writing down Prescott's contact and the VOR frequency where that of BLYTHE and Riverside belonged. I did not detect this error between passenger and engine management climbing out of turbulence. When I realized I was unsure of my position I tried contacting SoCal for a position check. Negative with them, I flew to the most recognizable settlement while trying to establish my position on the sectional and drifted through the ADIZ into Mexican airspace. Finding that I was now west of Yuma, I immediately requested a position check with either San Diego or Prescott flight service- I do not recall which at this time. I was given a discrete squawk and when radar contact was made 10 miles west of MCAS Yuma I requested vectors back into American airspace and reported a possible pilot deviation through the restricted areas, MOAs and the ADIZ into Mexico. Flight Service asked if my flight had originated in the US and I replied it had. They contacted Air Marine Operations Center which had been tracking me and said it was not an issue as I flew back into American airspace. I asked for any other instruction or required reporting and was advised none. Flight Service wished me a good day and I thanked them profusely before I flew a 337-degree course to Blythe to regroup and refuel, copy down the details above and carefully reconsider continuing the trip.

A lack of alertness caused by fatigue in the planning of the trip, as well as in-flight, and a desire to meet a commitment at my destination (Get-There-Itis) fueled this, my only incident. I have since established hard sleep and overtime rules to protect my airmanship and have scheduled some remedial training in navigation. I am also currently looking to purchase a GPS navigation aid for situational awareness to prevent further incursions.

## Synopsis

GA pilot reported becoming disoriented and committing several airspace violations.

## Time / Day

Date : 201808  
Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : ZZZ.ARTCC  
State Reference : US  
Altitude.MSL.Single Value : 3000

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility : Thunderstorm  
Weather Elements / Visibility : Rain  
Weather Elements / Visibility.Visibility : 10  
Light : Daylight  
Ceiling.Single Value : 4000

## Aircraft

Reference : X  
ATC / Advisory.Center : ZZZ  
Aircraft Operator : Personal  
Make Model Name : Skylane 182/RG Turbo Skylane/RG  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : None  
Mission : Personal  
Flight Phase : Cruise  
Route In Use.Other  
Airspace.Class B : ZZZ

## Component

Aircraft Component : GPS & Other Satellite Navigation  
Aircraft Reference : X  
Problem : Malfunctioning

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Single Pilot  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Private  
Experience.Flight Crew.Last 90 Days : 27  
Experience.Flight Crew.Type : 209  
ASRS Report Number.Accession Number : 1571346  
Human Factors : Distraction

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Overcame Equipment Problem

## Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings  
Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Human Factors  
Primary Problem : Ambiguous

## Narrative: 1

Flying my 182 from ZZZ to an avionics shop in ZZZ1 to correct autopilot issues. The weather was unsettled - standard late afternoon "pop up" convection in the greater [city] area. I decided to fly south around the west side of [the city] since the weather looked best in that area. Immediately after departing I received an indication that my panel GPS was not receiving signal. I had reviewed Airport, Obstacle, TFR, and ARTCC NOTAMS but did not see any indication of expected GPS signal loss. Given the recent challenges with my autopilot - I considered that perhaps this was yet another "issue" with my avionics. Initially - I knew the area well enough to navigate by sight (while heading SW) but I then turned on my Stratus and connected to my iPad that I keep for back up to regain situational awareness of my location. At this point my altitude was level at 3200 ft MSL and I decided to turn south flying under the 4000 foot base of the Bravo airspace. As I continued on the heading I noticed some convection forming and decided to lower my altitude to 3000 ft MSL and fly right around the corner of the Bravo shelf that sits at 3000 MSL. At this point, still about 8-10 miles from ZZZZZ I got another "lost GPS signal" from my panel and immediately reverted to my Status/iPad combination which appeared to be working. A few minutes later - the panel GPS returned and my iPad "flashed" and showed me approximate 2-4 miles at the Bravo 3000 ft MSL shelf. I immediately reduced altitude to 2800 ft and continued to fly out from under the shelf to the 4000 ft MSL Bravo shelf and then on to ZZZZ where I landed.

It is unclear if I in fact "busted" the Bravo or not - it was certainly very close. I'll also mentioned that I left ZZZZ in a different airplane headed east about 1 hour later and it initially had GPS reception challenges as well - so perhaps something was going on with the GPS network. In reflection - it is clear that I've been very comfortable with technology based navigation - and did not think to use pilotage as a backup for electronic navigation. It is also worth noting that I was flying after a full day of work, still distracted from work issues, and flying in stressful weather conditions as well - and was not as fresh as I should have been for this flight.

## Synopsis

Cessna 182 pilot reported experiencing intermittent "lost GPS signal" alerts while attempting to avoid Class B airspace and significant weather.

## Time / Day

Date : 201808  
Local Time Of Day : 0601-1200

## Place

Locale Reference.ATC Facility : ZOA.ARTCC  
State Reference : CA  
Relative Position.Angle.Radial : 180  
Relative Position.Distance.Nautical Miles : 3  
Altitude.MSL.Single Value : 13500

## Environment

Weather Elements / Visibility : Haze / Smoke  
Weather Elements / Visibility.Visibility : 5  
Ceiling.Single Value : 14000  
RVR.Single Value : 13500

## Aircraft

Reference : X  
ATC / Advisory.Center : ZOA  
Aircraft Operator : Personal  
Make Model Name : Cessna 337 Super Skymaster  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : IFR  
Mission : Personal  
Flight Phase : Cruise  
Route In Use : Direct

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Total : 2210  
Experience.Flight Crew.Last 90 Days : 11  
Experience.Flight Crew.Type : 639  
ASRS Report Number.Accession Number : 1568247  
Human Factors : Human-Machine Interface  
Human Factors : Situational Awareness  
Human Factors : Confusion

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Inflight Event / Encounter : VFR In IMC  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Chart Or Publication  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Chart Or Publication

## Narrative: 1

I was flying VFR from KMEV at 13500 ft and passed between the LLC VOR and the Carson Sink restricted area. I saw on my iPad after I had passed the LLC VOR that there was a round TFR with the same radius as the VOR radial which I think had a 7 mile radius to 60,000 ft of altitude for rocket launch. This was not noted on the FAA TFR map that I had checked and printed in the morning prior to flight and was not showing on my Garmin 750 as a TFR. I was receiving flight following at the time and was not told anything about the TFR either. I noticed the TFR on the way back as well. I was IFR returning due to the smoke from the fires. It was not noted on the FAA TFR list or map on the TFR website and it only showed up on my Foreflight on the iPad. I am unsure if this was a TFR or was it something wrong with the information on the Foreflight iPad?

## Synopsis

Cessna pilot reported a TFR was not displayed on the preflight TFR map or on the aircraft GPS, resulting in a possible airspace violation.

## Time / Day

Date : 201712

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : PCT.TRACON

State Reference : VA

Altitude.MSL.Single Value : 4000

## Environment

Weather Elements / Visibility.Other

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.TRACON : PCT

Aircraft Operator : Air Carrier

Make Model Name : B757-300

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Initial Approach

Route In Use : Vectors

Airspace.Class B : DCA

## Person

Reference : 1

Location Of Person.Facility : PCT.TRACON

Reporter Organization : Government

Function.Air Traffic Control : Approach

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 1

ASRS Report Number.Accession Number : 1505967

Human Factors : Situational Awareness

Human Factors : Workload

Human Factors : Confusion

## Events

Anomaly.Airspace Violation : All Types

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Track / Heading : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Flight Crew : Executed Go Around / Missed Approach

Result.Air Traffic Control : Issued New Clearance

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Chart Or Publication  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Weather  
Primary Problem : Weather

## Narrative: 1

DCA was in a south configuration with weather all around the airspace. I was working Arrival sectors all combined. A busy spurt happened. The winds at 3000 ft were 240 at 62 knots. Due to the winds and the traffic most of the aircraft were on vectors to final. I had to take my aircraft from the south across the airspace to the east downwind. Aircraft X was turned to final but the tail wind carried them a lot faster than the aircraft that they were following and standard separation would not have been maintained. I cancelled Aircraft X's approach clearance and climbed them to 4000 ft to be re-sequenced. I meant to say to stay on the localizer but I said fly present heading, the wind pushed the aircraft off of the final approach course and the aircraft entered Prohibited airspace. Once I realized the aircrafts proximity to the prohibited area I turned them westbound out of the airspace. No other incidents occurred. Standard separation between aircraft was maintained.

## Synopsis

PCT TRACON Controller reported assigning a heading to an aircraft that caused it to enter prohibited airspace.



## Time / Day

Date : 201710  
Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : PYM.Airport  
State Reference : MA  
Relative Position.Angle.Radial : 060  
Relative Position.Distance.Nautical Miles : 6  
Altitude.MSL.Single Value : 3000

## Environment

Flight Conditions : VMC  
Light : Daylight  
Ceiling : CLR

## Aircraft

Reference : X  
ATC / Advisory.TRACON : K90  
Aircraft Operator : FBO  
Make Model Name : Small Aircraft, High Wing, 1 Eng, Fixed Gear  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 91  
Flight Plan : None  
Mission : Training  
Flight Phase : Cruise  
Route In Use.Other  
Airspace.Class E : K90

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : FBO  
Function.Flight Crew : Instructor  
Qualification.Air Traffic Control : Fully Certified  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Flight Instructor  
Experience.Flight Crew.Total : 3800  
Experience.Flight Crew.Last 90 Days : 80  
Experience.Flight Crew.Type : 900  
ASRS Report Number.Accession Number : 1488262  
Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR

Detector.Person : Flight Crew  
When Detected : In-flight

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was providing flight instruction to a student pilot and reviewing the maneuvers for the required Airmen Certification Standards. The flight was conducted in VFR conditions 6 miles east of the Plymouth Airport (KPYM) and 2-4 miles northwest of the Plymouth Nuclear Power plant over Plymouth Bay and Duxbury Bay. We flew from the airport to a practice area over the water between 3,000 and 4,000 ft. The flight began with simulated IFR training and unusual attitudes. Stalls, slow flight, steep turns, emergency descents and turns around a point were maneuvers conducted after the simulated IFR training.

Upon completion of the training flight, I was advised by my FBO the FAA, Cape TRACON (K90), wanted to speak with me. I contacted the person via phone and was asked if I had been operating over the power plant. The person stated the facility's primary radar was out of service and Boston TRACON (A90) tracked my aircraft on radar. A90 subsequently contacted K90 in an effort to determine the aircraft's identity. A US Coast Guard aircraft apparently flew near my aircraft and photographed my call sign relaying it to the FAA.

The FAA official I spoke with indicated to me that the FAA wanted me to be aware I was operating over a nuclear power plant. I was operating northwest of the power plant over Plymouth Bay and Duxbury Bay. There was no indication that action would be taken by the FAA in the form of a Pilot Deviation.

Since instructing at this FBO for the last 9 years in this area, this is the first inquiry made to me regarding flights in that area. Bordering this practice area is V141, 2.5 miles east of the power plant and FREDO, a holding fix, 2 miles south of the power plant. Also, the area lies near the boundary of K90's and A90's airspace and is approximately 10 miles from the Boston Class B airspace.

The wording of FDC 3/1655 "SPECIAL NOTICE" states in part, "PILOTS CONDUCTING FLIGHT OPERATIONS ARE ADVISED TO AVOID THE AIRSPACE ABOVE OR IN PROXIMITY TO ALL NUCLEAR POWER PLANTS. PILOTS SHOULD NOT CIRCLE OR LOITER IN THE VICINITY OF SUCH FACILITIES." "Proximity and vicinity" are ambiguous at best. In an effort to resolve any misunderstanding of the applicable NOTAM I recommend the FAA clearly review and redefine restrictions near a nuclear power plant. A pro-active stance in defining "proximity" and "vicinity" would remove any subjectivity of their definition. However, the simplest solution would be the creation of Prohibited Airspace around all nuclear power plants and publishing them on all navigation charts.

It is unclear at the time of this report if the TSA has been notified and if it would be involved in an investigation.

## Synopsis

GA flight instructor reported that K90 TRACON was concerned about his flight lesson near a nuclear power plant.

## Time / Day

Date : 201709  
Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Relative Position.Distance.Nautical Miles : 10  
Altitude.MSL.Single Value : 7500

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility : Turbulence  
Weather Elements / Visibility.Visibility : 10  
Light : Night  
Ceiling.Single Value : 4000

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Personal  
Make Model Name : Skyhawk 172/Cutlass 172  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : None  
Mission : Personal  
Flight Phase : Cruise  
Route In Use : Direct  
Airspace.TFR : ZZZ

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Commercial  
Qualification.Flight Crew : Flight Instructor  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 770  
Experience.Flight Crew.Last 90 Days : 40  
Experience.Flight Crew.Type : 50  
ASRS Report Number.Accession Number : 1483881  
Human Factors : Situational Awareness  
Human Factors : Confusion

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : FAR  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Weather  
Primary Problem : Weather

## Narrative: 1

I was given Runway 10 at [departure airport] and then a left turn. My destination was ZZZ. This was not my usual departure runway and it took me further east and north than I usually fly before going northwest to join the northbound 7500 feet VFR corridor. There was a TFR that night for a baseball game. I was flying northwest with enough room to skirt the TFR. I encountered severe turbulence that resulted in multiple deflections of the aircraft of more than 45 degrees of bank and 20 degrees of yaw, with loss of altitude of several hundred feet. For several minutes, I don't know exactly how long, I fought the controls and just tried to maintain a level flight attitude and avoid losing too much altitude, which required full power and Vy. When the turbulence subsided I was flying more to the north-northwest, but I did not immediately realize how close I was to the TFR because I was pretty shaken up by the severity of the turbulence event. When I looked down to the right and looked at the stadium lights, I realized that I was closer than what would have looked to be a correct distance. I checked my ForeFlight iPhone and found that I had flown just inside of the edge of the TFR.

I had not brought my full iPad and mount on the flight because it was such a familiar area to me, and I fly between the two airports frequently. If I had been following ForeFlight actively, I would have had a constant visual reminder of my position during the turbulence event. As it was, I lost situational awareness both during the event and for a time afterward that it took to calm down from what was some of the worst turbulence I have been in.

## Synopsis

A Cessna 172 pilot reported that due to severe weather conditions he inadvertently flew into a TFR.

## Time / Day

Date : 201708  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Altitude.AGL.Single Value : 300

## Environment

Flight Conditions : VMC  
Light : Daylight  
Ceiling : CLR

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Personal  
Make Model Name : Bell Helicopter Textron Undifferentiated or Other Model  
Operating Under FAR Part : Part 91  
Flight Plan : VFR  
Mission : Utility  
Flight Phase : Cruise  
Route In Use : Direct  
Airspace.TFR : ZZZ

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Corporate  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Flight Instructor  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 15300  
Experience.Flight Crew.Last 90 Days : 30  
Experience.Flight Crew.Type : 325  
ASRS Report Number.Accession Number : 1478689  
Human Factors : Confusion  
Human Factors : Distraction  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types

Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Anomaly.Deviation - Procedural : Clearance  
Detector.Automation : Air Traffic Control  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.General : Police / Security Involved  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Airspace Structure

## Narrative: 1

I volunteered to do a relief mission to geo-tag down power lines so they can get crews out there to restore power and down lines. My briefing with Flight Service said there were TFR's on my mission. They never mentioned it was a VIP TFR, which makes no difference because a TFR is a TFR. Our operations secured a clearance from the command headquarters managing the TFR. I was given a squawk of to enter the TFR's and contacted approach and told them of our mission. We had to fly low to get the geo-tags and I requested 300 to 500 AGL or lower and ATC said "perfect". I guessed they liked that because everyone else was operating higher. When over the [subject] area we lost communications with ATC. I could hear other traffic responding but never heard ATC. ATC at times was broken up. We never heard anyone try to contact us and we started back to our destination and I then picked up ATC trying to communicate with an aircraft that just entered the TFR squawking 1200 VFR, they penetrated the TFR. I contacted ATC told them we were heading back to ZZZ and would come back in the TFR's after refueling and wanted to make sure this squawk would be the same for us to return. He then started getting upset at me because we lost communication with me and was trying to get us. I never even realized it. Also that other aircraft that was close to us who entered the TFR landed at the same airport I landed at, as they told me later on when I was interviewed by the Secret Service. They thought that the aircraft squawking 1200 was me. The sequence of events that happened were very unfortunate. They were not INTENTIONAL. ATC should have known that the altitude I requested, and they approved, would have resulted in radar contact lost and communications lost for being that far away from approach control facility. My briefing from Flight Service should have been more detailed that it was a VIP TFR. I would have been extra alert. Again, nothing here was INTENTIONAL, It was just a bunch of bad timing when everything happened at once.

## Synopsis

Bell Jet Ranger pilot reported losing communications with ATC, and inadvertently penetrating VIP TFR.

## Time / Day

Date : 201709

Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZOA.ARTCC

State Reference : CA

## Aircraft

Reference : X

## Person

Reference : 1

Location Of Person.Facility : ZOA.ARTCC

Reporter Organization : Government

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Radar : 30.0

ASRS Report Number.Accession Number : 1478083

Human Factors : Communication Breakdown

Human Factors : Human-Machine Interface

Human Factors : Time Pressure

Human Factors : Workload

Human Factors : Situational Awareness

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types

Anomaly.ATC Issue : All Types

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation - Procedural : Other / Unknown

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.General : Flight Cancelled / Delayed

Result.Air Traffic Control : Provided Assistance

Result.Air Traffic Control : Issued New Clearance

Result.Air Traffic Control : Separated Traffic

Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Airspace Structure

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings

Contributing Factors / Situations : Company Policy

Contributing Factors / Situations : Human Factors

Primary Problem : Airspace Structure

## Narrative: 1

Sector 44 has become a Monster sector. Management knows that Holiday weekends and volume issues with towers that they need to take all precautions into making this sector run somewhat manageable. Today, I witnessed more complexity in my career that I have ever seen. This sector, this day needs to be reviewed by outside sources not in this Center to see if something can be done to improve safety, flow, and reduce the stress that all of us feel when we plug into sector 44. The whole day was extremely complex and busy and my 30 minutes plus should be reviewed. I have no idea of the violations, airspace, etc. as we were hanging on for dear life. Towers wanted clearances, release of aircraft, airports had aircraft sitting on the runway ready to depart, and all the while VFR aircraft calling for advisories while IFR in the system ask for clearances while in the air. It was chaotic and unsettling.

This is the situation as I see it. Center does not have a system for proposal strips. That is one issue and they don't use them when traffic is normal. But today wasn't normal as most summer Holiday weekends. EDST had 30 plus proposals for this sector's airports. I am only looking at 10 or so with the active aircraft list. While I was off the line giving a clearance to a departure, making a phone call for an inbound to a tower, or coordinating anything else with Approach there are aircraft departing airports in the air looking for IFR clearances. Fires, TFR's, and smoke in the area make it critical these pilots get a timely clearance. I suggested to the supervisor that there be a coordinator/tracker to have a bay of proposed strips behind him and be able to grab the strip for the Radar Controller when aircraft call.

The EDST is in use by me at the handoff side and I can't even see the list of aircraft that are calling in the air, on the ground, or by tower. The Radar Controller is trying to get a squawk code or look up the aircraft. Furthermore, we don't have a shout line to Tower and that slows things down. Tower called me for clearances and release of aircraft and I couldn't get to their request!! Management came up with a plug in phone to make "hot" but the issue is when Tower calls and I answer the phone I also have incoming calls from other sectors in my other ear and can't handle it. We NEED a shout line set up and asked for it since June. I truly believe an outside team from DC, the Service Area, another center, anywhere, needs to come in and look at our set up and see what we can do to improve.

The controllers from Center, Tower, management, along with an outside party from the FAA need to really tackle this problem to make sure these times of extreme volume are managed with reduced risk to the NAS. There was a situation when I was just coming in. There were two VFR aircraft identified, we were talking to, and the controller pointed out. I was observing from behind that they were merging and the aircraft were at 10,100 feet and 10,000 feet. So much flashing was going on the Radar Controller was doing all he could. The Radar Controller issued a Traffic alert and one aircraft got the other at the last second! Starting mid-morning was chaos. There has to be a safer way for all involved. I know that our team did their best, including management but we have to figure this out and make it manageable.

## Synopsis

ZOA Center controller reported that a sectors' workload has become unmanageable resulting in delays and aircraft conflicts due to the variety of traffic situations and equipment limitations.



## Time / Day

Date : 201708  
Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Altitude.AGL.Single Value : 300

## Environment

Flight Conditions : VMC  
Light : Daylight

## Aircraft

Reference : X  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Air Carrier  
Make Model Name : EMB ERJ 145 ER/LR  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Nav In Use : FMS Or FMC  
Flight Phase : Climb  
Airspace.Class B : ZZZ

## Component

Aircraft Component : Autoflight System  
Aircraft Reference : X  
Problem : Malfunctioning

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : First Officer  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1476522  
Human Factors : Distraction  
Human Factors : Situational Awareness

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Flight Crew  
Detector.Person : Air Traffic Control  
Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.Flight Crew : Overcame Equipment Problem  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Human Factors  
Primary Problem : Aircraft

## Narrative: 1

Departing [on] RNAV Departure. At the positive rate callout I called for gear up, speed, and nav. I was following the Flight Director through 300-500 when I realized the NAV mode hadn't captured and we were still in heading mode. I disregarded the Flight Director and turned to the left back to our course. The Captain had tried three times throughout the departure to arm the NAV mode to no avail. By the time I noticed the deviation and turned on course we were approximately one dot to the right of our course. I believe we might have penetrated a Prohibited area. On the fourth attempt the lateral mode armed and I flew the remainder of the departure without incident. After several minutes we were given a phone number to call. [On arrival] I was being vectored to final for RWY XY. I switched to green needles and armed the NAV mode to intercept the LOC with autopilot engaged. The autopilot captured the LOC and almost immediately dropped the Lateral NAV mode and reverted to ROL mode. The Captain tried several times to rearm the Approach mode to no avail. I disconnected the autopilot and followed the PAPI to an uneventful landing using raw data.

## Synopsis

EMB-145 First Officer reported that a malfunctioning Lateral Navigation mode caused a course deviation on departure and reversion to a raw data, hand-flown approach.

## Time / Day

Date : 201708

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : DCA.Airport

State Reference : DC

## Aircraft

Reference : X

ATC / Advisory.Tower : DCA

Aircraft Operator : Air Carrier

Make Model Name : Medium Large Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Climb

Airspace.Class B : DCA

## Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Check Pilot

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1476515

Human Factors : Time Pressure

Human Factors : Confusion

Human Factors : Distraction

Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

## Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1476678

Human Factors : Time Pressure

Human Factors : Human-Machine Interface

Human Factors : Distraction

Human Factors : Confusion  
Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Detector.Automation : Air Traffic Control  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Returned To Clearance  
Result.Flight Crew : Exited Penetrated Airspace  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I was Pilot-in-Command of Aircraft X from DCA. After all pre-departure checklists were completed, we taxied to DCA runway 01 for takeoff. I had glanced over at the First Officer's (FO's) side to see if everything was set up and I recall, everything looked normal. When we were cleared for takeoff we made a normal takeoff, broke ground, and did the normal post-rotation clean-up of the aircraft. When we reached the fix on the departure DCA SID that turned us up the river, I knew something was wrong. I grabbed the yoke and made an immediate left turn to turn the aircraft back on course. When I looked at the FO's CRTs I noted they were configured incorrectly for the takeoff so I simultaneously reached over and corrected his displays. After I reconfigured the PFD, I engaged LNAV and VNAV to their normal takeoff configuration. At this time I selected the auto pilot on. While selecting the appropriate LNAV and VNAV buttons I glanced out my left window and saw the river below me. From my view I was still over the river. Shortly afterwards we were handed off from tower, to departure, then on to other center frequencies. At this time I'm not sure how many handoffs were made but at some point, we were queried if we had a minute to talk. I responded "yes, go ahead". The controller then informed us that we had a "possible traffic deviation." I started thinking about it and did not think I had done anything wrong. When I landed [at destination airport], I was then informed that we had penetrated the P-56A airspace that protects the White House. At that point my First Officer and I went through the proper channels in talking with my Chief Pilot, TRACON, etc. After the interview, I was told they did not believe there would be any further law enforcement action on their part.

The event occurred because one pilot was not in FMS needles when the airplane wanted to turn it was not indicating to that pilot to do that. I will double check the screens and navigation tools that are supposed to be on for that particular flight for takeoff.

## Narrative: 2

[Report narrative contained no additional information.]

## Synopsis

Air carrier flight crew reported a procedural deviation while departing Washington National Airport (DCA) which resulted in the penetration of Prohibited Area P-56.

## Time / Day

Date : 201708  
Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : A90.TRACON  
State Reference : NH  
Altitude.MSL.Single Value : 2000

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility.Visibility : 20  
Light : Daylight  
Ceiling.Single Value : 10000

## Aircraft

Reference : X  
ATC / Advisory.TRACON : A90  
Aircraft Operator : Personal  
Make Model Name : PA-32 Cherokee Six/Lance/Saratoga/6X  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : None  
Flight Phase : Cruise  
Route In Use : Direct  
Airspace.Class B : BOS

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Single Pilot  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Commercial  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 3860  
Experience.Flight Crew.Last 90 Days : 30  
Experience.Flight Crew.Type : 3300  
ASRS Report Number.Accession Number : 1473843  
Human Factors : Confusion  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types

Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Anomaly.Deviation - Procedural : Clearance  
Detector.Person : Air Traffic Control  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Returned To Clearance  
Result.Air Traffic Control : Issued New Clearance

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Procedure

## Narrative: 1

On a leg while in radar contact with Boston Approach I was asked to make a correction to the right to avoid a small TFR which led me into a Class Bravo area I was not warned or cleared to enter. I was told to contact the Norwood Tower to continue, I did so and was vectored out of the protected area then turned back over to the same Boston Controller and continued on to [destination].

The Norwood Tower told me to call Boston Approach, I did so and after a conversation I was asked for my license # etc. I have never experienced a controller leading me into protected airspace without a caution that I was about to enter. I kept the same transponder code all the way to [my destination].

## Synopsis

Piper pilot was told to call Approach Control after being vectored away from a TFR and into the Class Bravo.

## Time / Day

Date : 201708

Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZBW.ARTCC

State Reference : MA

## Aircraft

Reference : X

Make Model Name : No Aircraft

## Person

Reference : 1

Location Of Person.Facility : ZBW.ARTCC

Reporter Organization : Government

Function.Air Traffic Control : Enroute

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 10.7

ASRS Report Number.Accession Number : 1473567

Human Factors : Communication Breakdown

Human Factors : Human-Machine Interface

Human Factors : Time Pressure

Human Factors : Confusion

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Air Traffic Control

## Assessments

Contributing Factors / Situations : Airspace Structure

Contributing Factors / Situations : Company Policy

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Procedure

## Narrative: 1

We have been working a lot of weird traffic situations with weird routes and complex traffic flows in our area due to VIP movement. Last night, the Operations Manager (OM) told me that in 15 minutes, some airspace was going to go hot because of VIP movement, but that they didn't know which airspace. He also advised that he suggested we start considering the TFR's hot, but no one in the area knew what he was talking about. There had been something on CEDAR that we read before our shift, but it just talked about TRACON's Class B lateral boundary, so we didn't know it applied to us.

I had to get out a sectional, try to use a blank flight strip to make a ruler, and we tried approximating the boundary of the TFR based on those rough calculations. No one briefed us on what impact the TFR would have, and it wasn't put in plain language for us to be able to decipher or to have any real valuable information on where to draw the TFR boundaries on our scopes. Not only that, but we were officially told that it was in fact the TFR's going hot two minutes after they actually went hot.

I know things can be fluid when it comes to VIP movement. However, the paperwork/information about a TFR needs to be given to controllers in a way they can actually use. Specific dimensions and what that means to the area should be on a hot sheet or something. Ideally, it would be nice to get a verbal briefing in case we have questions about the TFR. Also, the added traffic and complexity needs to be taken into account and traffic should be slowed down going into areas affected by VIP movement.

## Synopsis

Center Controller reported confusion when the Front Line Manager walked by and said some airspace was going hot, but did not know which airspace.



## Time / Day

Date : 201708

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 2500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 30

Light : Daylight

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : PA-28 Cherokee/Archer/Dakota/Pillan/Warrior

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : ZZZ

Airspace.TFR : ZZZ

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 600

Experience.Flight Crew.Last 90 Days : 3

Experience.Flight Crew.Type : 600

ASRS Report Number.Accession Number : 1472448

Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : FAR

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.General : Police / Security Involved

Result.Flight Crew : Diverted

Result.Flight Crew : Landed As Precaution

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Chart Or Publication  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

I began my flight and flew to multiple airports when I was intercepted by an F16. He rocked his wings and I rocked my wings back then landed as soon as possible. After landing the police and secret service came and took a full report of the occurrence. On the day of the flight I was unaware of the TFR and did not properly check the area while making my flight plan. In the future I will carefully check for flight restrictions. I am currently getting training from a flight instructor on the subject and now know multiple ways to check the area prior to my flight.

## Synopsis

PA28 pilot reported he flew through a TFR and was intercepted by an F16.

## Time / Day

Date : 201708

Local Time Of Day : 0601-1200

## Place

Locale Reference.ATC Facility : ZBW.ARTCC

State Reference : NH

Altitude.MSL.Single Value : 23000

## Environment

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.Center : ZBW

Aircraft Operator : Air Carrier

Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Cruise

Route In Use.Other

Airspace.Class A : ZBW

## Aircraft : 2

Reference : Y

ATC / Advisory.Center : ZBW

Aircraft Operator : Military

Make Model Name : Fighter

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Training

Flight Phase : Cruise

Route In Use : Vectors

Airspace.Class A : ZBW

## Aircraft : 3

Reference : Z

ATC / Advisory.Center : ZBW

Aircraft Operator : Air Carrier

Make Model Name : Commercial Fixed Wing

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Descent

Airspace.Class A : ZBW

## Person : 1

Reference : 1  
Location Of Person.Facility : ZBW.ARTCC  
Reporter Organization : Government  
Function.Air Traffic Control : Enroute  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 7  
ASRS Report Number.Accession Number : 1471241  
Human Factors : Communication Breakdown  
Human Factors : Confusion  
Human Factors : Distraction  
Human Factors : Situational Awareness  
Human Factors : Time Pressure  
Human Factors : Workload  
Human Factors : Human-Machine Interface  
Communication Breakdown.Party1 : ATC  
Communication Breakdown.Party2 : ATC

## Person : 2

Reference : 2  
Location Of Person.Facility : ZBW.ARTCC  
Reporter Organization : Government  
Function.Air Traffic Control : Enroute  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 4  
ASRS Report Number.Accession Number : 1471561  
Human Factors : Confusion

## Person : 3

Reference : 3  
Location Of Person.Facility : ZBW.ARTCC  
Reporter Organization : Government  
Function.Air Traffic Control : Enroute  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 6.9  
ASRS Report Number.Accession Number : 1471238  
Human Factors : Confusion  
Human Factors : Situational Awareness

## Person : 4

Reference : 4  
Location Of Person.Facility : ZBW.ARTCC  
Reporter Organization : Government  
Function.Air Traffic Control : Handoff / Assist  
Function.Air Traffic Control : Enroute  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 1  
ASRS Report Number.Accession Number : 1471236  
Human Factors : Workload  
Human Factors : Situational Awareness  
Human Factors : Distraction

Human Factors : Confusion  
Human Factors : Human-Machine Interface

## Person : 5

Reference : 5  
Location Of Person.Facility : ZBW.ARTCC  
Reporter Organization : Government  
Function.Air Traffic Control : Enroute  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 1  
ASRS Report Number.Accession Number : 1471223  
Human Factors : Distraction  
Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Conflict : Airborne Conflict  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : Clearance  
Detector.Automation : Air Traffic Control  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Air Traffic Control : Separated Traffic  
Result.Air Traffic Control : Issued New Clearance

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Procedure

## Narrative: 1

I was working sector 32 where I had accepted a point out on Aircraft X (I don't remember the call sign so I'll call it Aircraft X) northbound going to Boston. There were a flight of military fighters southbound at FL240B250. I had a JFK arrival Aircraft Z (don't remember the call sign I'll call it Aircraft Z) who was at FL220. The sector above me who was working Aircraft X had some traffic he was trying to separate and in order to help I descended Aircraft Z to 140 to give him a lower altitude on Aircraft X if he needed it. Aircraft Z was still in sector 18s airspace and I did not have time to call and get control. As the situation seemed to resolve itself, a minute later we saw that Aircraft X was in conflict alert with Aircraft Y (not sure on the call-sign) and Aircraft Y's altitude was showing FL230B240 in sector 18s airspace with Aircraft X just clipping 18s airspace going northbound. Both myself and the sector working Aircraft X missed that the flight plan on the high altitude map showed the missing sector 18s airspace, but on the low altitude map which they didn't display shows Aircraft X's route of flight just nearly hitting sector 18's airspace. It was in this airspace that sector 18 who didn't get a point out from Aircraft X and didn't see a data block, descended Aircraft Y from FL240B250 to FL230B240.

This route that Aircraft X was on was a reroute for VIP airspace. This route which will keep clear of 1 traffic flow is a new route to us and not what we are used to seeing. We all anticipated Aircraft X to be going to a particular fix that we use regularly and he was not. I

think what would help in the future would be negotiated routes during SAA/VIP airspace and having the sectors better briefed on the changes and how it could affect them.

#### Narrative: 2

I accepted Aircraft Y a flight of 4 on a heading to enter W-105. Upon initial communication they asked for the block FL230B240 for weather. I descended him as requested and he began flashing with Aircraft X that was not shown on my scope.

I can wait an additional minute after asking to issue the descent to be certain I have cleared all boundaries in an area where there are so many adjacent sectors.

#### Narrative: 3

I took the sector with Warning Area 105 hot and the KILMA CAP hot. Aircraft X was on a route to miss the CAP coming out of PHL. When I took the sector I understood Aircraft X had been pointed out to Sector 32. I descend Aircraft X to FL230 to get the airplane below Aircraft Y at FL240B250 and also into sector 34's altitudes for a hand off. This put Aircraft X in Sector 32's airspace. I did not realize Aircraft X was also going into Sector 18's airspace when descended to FL230, therefore no point out was done to Sector 18. When sector 18 took the hand off on Aircraft Y they descended them FL230B240 thus losing separation with Aircraft X.

With the CAP and Warning area hot it greatly reduces the amount of airspace we have to work with, meanwhile traffic and complexity is increased due all to routes around the CAP. This greatly increases the amount of workload on the sector. With this particular incident a routing that does not require multiple point outs to accomplish would be nice. In addition when the route is read out at sector 31 it does not appear that a point out will be required to sector 18, therefore I did not think to perform such action. It only becomes apparent when the low map is pulled up. It would seem to make more sense to have the BOS arrivals join the route at AWLIN from CCC. Thus, avoiding the area where Sectors 31, 32, and 18 all meet and allowing for a straight hand off from sector 31 to 34 without Point Outs.

#### Narrative: 4

I was sitting on the D side position for this incident. R-side was controlling Aircraft Y. Per Aircraft Y request to become standard, 34R climbed flight to FL240B250. All necessary point-outs were made and hand off was initiated to CAPE18. CAPE18 took radar service. Aircraft Y was shipped. Once Aircraft Y entered CAPE18, 18R descended Aircraft Y flight per his request to FL230B240. HTO31 had handed off Aircraft X to R24 at FL230 without point out to CAPE18. Conflict alert went off in PVD34 which drew attention to the situation. Both 34R and 34D were unsure if CAPE18 updated the data block without the descent or if Aircraft Y flight was given descent clearance. 34R and 34D were also unaware HTO31 had not pointed out Aircraft X to CAPE18.

Due to TFR/Special Use Airspace, KILMA routes have changed in HTO31 sector. Route for BOS arrivals takes aircraft through complicated shelf airspace. Routes for KILMA were not designed well and no training was provided for new routes.

#### Narrative: 5

I climbed Aircraft Y flight FL240B250 per his request. I took a handoff on Aircraft X at FL230. The next sector (18) descended Aircraft Y flight to FL230B240 and Conflict Alert went off. We did all necessary point outs and hand offs

The route Aircraft X was on to BOS takes him through a complicated shelf of airspace. Maybe the route should avoid that spot.

## Synopsis

Five Boston Center Controllers reported a loss of separation when a flight of aircraft were descended through an aircraft's altitude.

## Time / Day

Date : 201708  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Altitude.MSL.Single Value : 5000

## Environment

Flight Conditions : VMC  
Light : Daylight

## Aircraft

Reference : X  
ATC / Advisory.Tower : ZZZ  
Aircraft Operator : Personal  
Make Model Name : Cessna 210 Centurion / Turbo Centurion 210C, 210D  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : None  
Mission : Personal  
Flight Phase : Cruise  
Route In Use : Direct  
Airspace.Class E : ZZZ  
Airspace.TFR : ZZZ

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Commercial  
Qualification.Flight Crew : Flight Instructor  
Experience.Flight Crew.Total : 1800  
Experience.Flight Crew.Last 90 Days : 20  
ASRS Report Number.Accession Number : 1471203  
Human Factors : Other / Unknown

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Air Traffic Control  
When Detected : In-flight



Result.General : Police / Security Involved  
Result.Flight Crew : Returned To Departure Airport

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

It was a VFR day beautiful day and like several times before I departed the Airport to go practice maneuvers - stalls, lazy eight and chandelles and slow flight in the NW practice area. This was local flight I admit I did not check the NOTAMs.

After I completed the maneuvers I was headed to the VOR to practice holds, at that point was intercepted by a fighter jet and complied with his instructions to land at ZZZ airport.

When I was at the right base for runway 28 the fighter jet instructed me to call him on the CTAF when I landed - which I did.

Following that, I put my plane in my hangar. When I was driving away from the hangar on the ramp area, noticed two cop vehicles behind me and 2 in front, hence stopped and they informed me that I busted the Presidential TFR and that the Secret Service person is on his way to interview me.

The Secret service agent comes 1.5 hours later and conducted an extensive 1 hours interview.

For me, this ordeal - lesson learned - check NOTAMs even for local flights to practice area!!

## Synopsis

C210 pilot reported being intercepted by a military jet and instructed to land at the departure airport. He was informed that he had violated a presidential TFR.

## Time / Day

Date : 201708  
Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : ZLA.ARTCC  
State Reference : CA  
Altitude.MSL.Single Value : 11000

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility : Thunderstorm  
Weather Elements / Visibility.Visibility : 10  
Light : Daylight  
Ceiling.Single Value : 20000

## Aircraft

Reference : X  
ATC / Advisory.Center : ZLA  
Aircraft Operator : Corporate  
Make Model Name : Small Transport  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 91  
Flight Plan : IFR  
Flight Phase : Descent  
Route In Use : Vectors  
Airspace.Class E : ZLA

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Corporate  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Commercial  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Flight Instructor  
Experience.Flight Crew.Total : 1350  
Experience.Flight Crew.Last 90 Days : 60  
Experience.Flight Crew.Type : 60  
ASRS Report Number.Accession Number : 1471135  
Human Factors : Confusion  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : ATC  
Communication Breakdown.Party2 : Flight Crew

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : FAR  
Anomaly.Deviation - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : Flight Cancelled / Delayed  
Result.Flight Crew : Requested ATC Assistance / Clarification

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Contributing Factors / Situations : Weather  
Primary Problem : Weather

## Narrative: 1

Another pilot and I on board experienced an incident with L.A. Center while approaching the San Diego International Airport. The incident occurred when L.A. Center assigned our aircraft to fly direct to the IFR fix, JONDA then direct to the San Diego International Airport (SAN), which was our final destination. JONDA (IFR Fix) is located 55 nautical miles southeast of the San Diego International Airport just north of the Mexican/USA border. Our aircraft was flying on a heading direct to JONDA (IFR fix) from the north. L.A. Center then told our aircraft to maintain present heading once we were approximately 10 nautical miles north of JONDA (IFR Fix). Our aircraft along with multiple other aircraft approaching the San Diego International Airport were trying to maneuver around a large wall of thunderstorms that were located to the east of the San Diego County area.

L.A. Center had most of the aircraft approaching the San Diego International Airport fly south close to the border of Mexico to deviate around the thunderstorm cells, then head inbound to the San Diego International Airport. While our aircraft was quickly approaching JONDA, maintaining our southerly heading to the Mexican border, our L.A. Center frequency became highly saturated with radio calls. Our L.A. Center controller kept getting stepped on while making transmissions to other aircraft. Also, two to three aircraft were calling at one time to get a hold of our L.A. Center Controller. Our controller even stated that two aircraft are calling at once and to say again because he did not receive the transmissions clearly from those two other aircraft. Our aircraft was still maintaining our present southerly heading that L.A. Center told us to fly, but we were quickly approaching the ADIZ borderline between Mexico and the United States. My other pilot and I tried reaching our L.A. Center Controller multiple times, but our transmissions kept getting blocked by other aircraft and the L.A. Center Controller together.

We tried approximately 20 attempts to get a hold of our L.A. Center Controller, but were not able to. We started calling our controller once we were about 5 nautical miles to the North of JONDA (IFR fix) because we knew we were getting close to the ADIZ. The other pilot and I thought that the controller became too saturated with radio calls and forgot about our aircraft and our current position of our aircraft, which was very close to the ADIZ. Once we passed JONDA (IFR fix) on our assigned southerly heading, we were now 5 nautical miles from the North of the ADIZ and were soon going to pass the ADIZ without any sort of clearance or permission to cross the border of Mexico since our aircraft's final

destination was San Diego International Airport, a United States domestic destination.

Myself and other pilot kept trying and trying multiple times now, once we were quickly approaching the ADIZ, but the L.A. Center frequency was still very saturated with communication amongst the Controller and several other aircraft. Approximately 2-3 nautical miles north of the Mexico/United States ADIZ, myself and other pilot both decided to deviate and make a turn to the right on a westerly heading to avoid crossing the ADIZ from the north in VFR flight conditions. Once rolling out on the westerly heading we tried calling L.A. Center two-three more attempts and after the third attempt we were able to get a hold of the controller. We told the controller that we had to make a right turn to the west to avoid crossing the ADIZ into Mexico and tried multiple times calling on the frequency, but it was too saturated with transmissions between other aircraft and the controller.

The L.A. Center controller then acknowledged to us that he was capable of having aircraft cross the ADIZ due to the thunderstorms in the area, but myself and other pilot had no knowledge of that information and were never communicated that information until after we made the turn to the westerly heading to avoid the penetration of crossing the ADIZ. L.A. Center then told us to fly on a heading of 255 degrees and expect radar vectors to San Diego International from that point. Our aircraft then was assigned a different Air Traffic Control frequency and made it safely to our destination of the San Diego International Airport.

## Synopsis

A corporate pilot reported turning away from the Mexico ADIZ airspace after being unable to contact the Center due to frequency congestion.

## Time / Day

Date : 201706  
Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZMP.ARTCC  
State Reference : MN  
Altitude.MSL.Single Value : 23000

## Aircraft : 1

Reference : X  
ATC / Advisory.Center : ZMP  
Aircraft Operator : Air Carrier  
Make Model Name : Commercial Fixed Wing  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Cruise  
Airspace.Class A : ZMP

## Aircraft : 2

Reference : Y  
ATC / Advisory.Center : ZMP  
Aircraft Operator : Air Carrier  
Make Model Name : Commercial Fixed Wing  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Flight Phase : Cruise  
Route In Use : None  
Airspace.Class A : ZMP

## Person

Reference : 1  
Location Of Person.Facility : MSP.ARTCC  
Reporter Organization : Government  
Function.Air Traffic Control : Enroute  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 9  
ASRS Report Number.Accession Number : 1460370  
Human Factors : Communication Breakdown  
Human Factors : Confusion  
Human Factors : Human-Machine Interface  
Human Factors : Situational Awareness  
Human Factors : Distraction  
Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Air Traffic Control  
When Detected : In-flight

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Airspace Structure

## Narrative: 1

Apparently this was a scheduled exercise to practice for a TFR Spill-out during the upcoming [event]. Additionally there were verbal face to face briefings originally being provided by a single Point of Contact. However, when it was realized that the Point of Contact (POC) was going to be going home for the day, a secondary Management individual was doing those briefings. All of those briefings occurred while I was on my normal Regular Day Off (RDO). Upon my arrival to the area I was given a printed packet referencing the "Intercept Mission" by a Controller in Charge (CIC) who had no additional information beyond what was in the packet. I was advised that 2 of the 3 target aircraft were already completed and that the third was the only remaining situation and that they weren't even sure if it was going to happen. I read the packet briefly and signed off on it. I got into sector 08/09 on the R Position and during the briefing was told that there was a 20 NM TFR around MSP from 180B210 and that even though it was depicted as a 25 NM ring it was actually only 20 NM. I asked if we had to keep all aircraft clear from it and was told yes. There was no indication this was anything other than an actual live TFR. The above referenced packet indicated that the Intercept was going to happen in high altitude. A newly certified D-side was on position and received a call from M98. She was confused over the information M98 was providing and turned to ask the incoming trainer for another D-side at 08/09 if he knew what they wanted. There was some discussion on their end which I was not part of. Aircraft Y checked on at FL200 which I did not have a Full Data Block (FDB) and no information from the D-side regarding a position so I was caught off guard as well. Going back and forth with Aircraft Y I was able to determine his position approximately on the MSP 200/050 and started a primary only FDB. I called traffic to Aircraft Y on Aircraft X and he stated "radar contact". During this time I also had an inbound push to MSP that needed some work as well as a couple departures in the same area as Aircraft Y and Aircraft X. I again called traffic to the Aircraft Y and he stated "Target of Interest (TOI) Intercepted" and requested a block altitude and 10NM maneuvering area. I approved a block from 200B230 and the 10 NM maneuvering area then asked if the 3000' block was enough. He requested a 4000' block. I had the D-side coordinate with high altitude sectors and assigned 200B240. When Aircraft Y made his northbound turn the FDB separated from his target and went CST (Coast). I was busy with the inbounds and did no notice exactly when this happened and now his proximity to Aircraft X made it impossible to tag it up again. Aircraft Y requested a HDG back into the

TFR stating he was peeling off the TOI. I assigned a 360 HDG but no altitude. Their proximity to the TFR was imminent so I wanted to coordinate with M98 as to who was going to work them back into the TFR as our Supervisor was unsure. M98 said they would work him back in and that he was radar but wanted to know if I had received identifying information on the TOI. I asked what they needed then went to Aircraft Y to get that info. Re-coordinated with M98 that information and shipped Aircraft Y back to M98. Upon internal review afterwards I realized that I had not issued Aircraft Y an altitude outside of the block to maintain and did not separate him from Aircraft X. Aircraft X at 230 was above the TFR and not in conflict with it.

First and foremost this was supposed to be a learning scenario where the controllers in Area 3 would get to see a practice intercept. There were verbal briefings conducted however, there was no follow-up regarding if the individual who would be working the sector at the time of the scenario was verbally briefed with an opportunity to ask questions or get a refresher on intercepts. Only that they had at least had the packet briefing. Additionally, it would have been extremely helpful if a POC with intimate knowledge of not only the scenario but the phraseology involved would have been present in the area monitoring the situation to make sure the scenario went as planned or as close to planned as possible.

There was a CIC in charge at the time of my packet briefing with no specific information regarding the scenario other than the packet. The supervisor that relieved the CIC during the scenario wasn't in the area during the scenario and was in the center FLM area which has been a problem since its inception. Additionally, the FLM was unsure about who was in charge of the TFR and the rules surrounding it when queried during an extremely time sensitive event.

It would also have been helpful to have the sectors split during this scenario so an individual could have focused on the scenario and not be distracted by other time sensitive traffic situations.

From the aircraft and pilot side, having an extremely high performance aircraft during tight maneuvers during what is supposed to be a training situation utilized without a transponder active makes tracking the aircraft nearly impossible with everything else going on. Specifically with its proximity to MSP and all of the other primary targets that in its vicinity.

Short breakdown would be:

- 1) Have an aircraft with a transponder
- 2) Have a POC in the area during the scenario for questions
- 3) Dismantle the centralized FLM area and get the FLM's back in the area where they are useful and needed.
- 3) Split the sectors so that during these training scenarios controllers can actually learn something from the scenario.
- 4) Upper management needs to follow through with its plans and make sure the scenarios run as they should without large deviations and that all affected personnel are briefed and have an opportunity to ask questions.

## Synopsis

ZMP ARTCC Controller reported problems with aircraft related to Temporary Flight Rules (TFR), aircraft intercept and losing a data tag on aircraft involved.

## Time / Day

Date : 201706  
Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : PCT.TRACON  
State Reference : VA  
Altitude.MSL.Single Value : 7000

## Environment

Flight Conditions : Mixed  
Weather Elements / Visibility.Visibility : 10  
Light : Daylight  
Ceiling.Single Value : 3000

## Aircraft

Reference : X  
ATC / Advisory.TRACON : PCT  
Aircraft Operator : Air Carrier  
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng  
Crew Size.Number Of Crew : 2  
Operating Under FAR Part : Part 121  
Flight Plan : IFR  
Mission : Passenger  
Nav In Use : FMS Or FMC  
Nav In Use : GPS  
Flight Phase : Cruise  
Route In Use : Vectors  
Route In Use.STAR : FRDMM  
Airspace.Class E : PCT  
Airspace.Special Use : P56

## Component

Aircraft Component : Air/Ground Communication  
Aircraft Reference : X  
Problem : Improperly Operated

## Person : 1

Reference : 1  
Location Of Person.Facility : PCT.TRACON  
Reporter Organization : Government  
Function.Air Traffic Control : Approach  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 14.5  
ASRS Report Number.Accession Number : 1457725  
Human Factors : Communication Breakdown  
Human Factors : Workload  
Human Factors : Time Pressure



Communication Breakdown.Party1 : ATC  
Communication Breakdown.Party2 : Flight Crew

## Person : 2

Reference : 2  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1458096  
Human Factors : Time Pressure  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Human Factors : Confusion  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Person : 3

Reference : 3  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Flying  
ASRS Report Number.Accession Number : 1458434  
Human Factors : Workload  
Human Factors : Situational Awareness  
Human Factors : Distraction  
Human Factors : Communication Breakdown  
Human Factors : Confusion  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Air Traffic Control  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented  
Result.Flight Crew : Returned To Clearance  
Result.Flight Crew : Exited Penetrated Airspace  
Result.Air Traffic Control : Issued New Clearance  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

I asked if the instructor wanted to train, and that it was going to be a little busy. He said yes, I confirmed again that he was ok with it, and he agreed. It probably was too busy for a newer trainee. As the session progressed, I had another controller spin 2 aircraft for spacing. They were basing around a 15 mile final which is very typical, and not overly busy. I did check multiple times to ensure that the instructor was ok with the traffic, and he said yes. The aircraft was being [vectored] for space and given a 090 heading, which is normal. When the aircraft was issued the downwind heading he never answered. He was hailed numerous times, and the surrounding positions checked their frequencies to make sure he wasn't there along with the tower. The controllers went on the guard frequency with no response. The NORDO aircraft then flew through P56A. He eventually came back on the frequency on the other side of P56 and resumed being controlled to DCA.

Aircraft should have a display of P56 within the cockpit so as to avoid it if they are NORDO or to question it if they believe they will enter it with the controller.

## Narrative: 2

I was the Captain and Pilot Monitoring on (call sign) ZZZ to DCA. We were given the FRDMM RNAV Arrival landing 19 at DCA. From FRDMM intersection we departed the charted arrival on an assigned 140 degree heading and received multiple delay vectors, altitude and speed changes. Being handed off to the final POTOMAC Approach Controller, on 119.85 and checking in, we were given instructions to turn to a heading of 090 degrees, descend and maintain 7000' and speed 190 knots. I acknowledged the Controller's request and the Pilot Flying made the correct speed, altitude and heading corrections.

Our position at this time, I approximated to be five to ten miles northwest of DCA. Weather conditions were ceilings 3000' broken to overcast, tops approximately 5000' and wind at 7000 ft was 220/25 knots. While we were on this heading the FO and I discussed the possibility of being vectored across the 19 Approach course and being vectored on the RNAV/Visual 19 from the east. Both the FO and I also discussed the unusual arrival track and how quiet the Approach Controller frequency had become. I had noticed earlier during the arrival phase the Controller's were experiencing periods of multiple radio transmissions and receptions followed by periods of long radio silences.

At one point on the arrival I rechecked in with a Controller, because it was so "eerily" quiet. I assumed it was one of those quiet periods. Continuing on the assigned 090 heading I heard a faint transmission on the number 2 COMM radio, which was tuned to guard 121.5 "call sign contact Approach Control on 119.85 and acknowledge with an ident." Volume control was set to low on the number 2 radio as not to interfere with COMM number 1 transmissions. We then both looked down to see the number 1 radio was now tuned to 119.87.

I immediately selected the corrected frequency, the FO hit the ident button and I reestablished communication with Potomac Approach on 119.85. The Controller gave us an immediate left turn to a northerly heading and informed us we had violated the P-56 prohibited airspace. So in a very short space of time we had unknowingly lost communications with Potomac Approach on 119.85 and due to the last assigned heading, given to us by the Controller, we had penetrated the P-56 airspace. We continued without any further incidents.

If being vectored by the Controller and that heading/track, in the event of lost COMM,

would put us in direct violation of any prohibited/restricted airspace, then the Controller should share with us his or her mental model of further vectors in order to keep us from violating airspace. In our case when the Controller issued the 090 heading, putting us on a direct course to enter the P-56 airspace, he could have followed up with "you'll be on that heading for five miles, expect a northerly turn prior to the river." Have the data base include P-56 and have the icon display on the ND as to aide SA. Have the ability to use the ownship icon on arrival and approach plates. As Captain, PF, I should have been more acutely aware of possible lost COMM procedures and better SA, in the event ATC fails to provide approach vectors which would keep us clear of P-56.

### Narrative: 3

The "view ownship" feature on the Jepp Approach Plate would have given our exact location in reference to the prohibited airspace. ATC should not issue a compromising heading within a short distance to this airspace.

### Synopsis

An air carrier flight crew and PCT TRACON Controller described their respective actions when the aircraft became NORDD then flew through P-56 after one of the flight crew inadvertently changed the COM 1 frequency.

## Time / Day

Date : 201705

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : DCA.Airport

State Reference : DC

Altitude.AGL.Single Value : 400

## Environment

Flight Conditions : VMC

Light : Daylight

Ceiling : CLR

## Aircraft

Reference : X

ATC / Advisory.Tower : DCA

Aircraft Operator : Air Carrier

Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use : GPS

Flight Phase : Initial Climb

Route In Use.SID : JDUBB 1

Airspace.Class B : DCA

## Component

Aircraft Component : Aero Charts

Aircraft Reference : X

Problem : Design

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1453252

Human Factors : Communication Breakdown

Human Factors : Distraction

Human Factors : Human-Machine Interface

Human Factors : Situational Awareness

Human Factors : Workload

Human Factors : Confusion

Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : Flight Crew  
Communication Breakdown.Party2 : ATC  
Analyst Callback : Attempted

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Clearance  
Anomaly.Deviation - Procedural : Published Material / Policy  
Detector.Person : Flight Crew  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action  
Result.Flight Crew : Returned To Clearance  
Result.Flight Crew : Became Reoriented  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Airport  
Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Chart Or Publication  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Weather  
Primary Problem : Human Factors

## Narrative: 1

The physical location of DCA presents challenges to departures and arrivals because of its proximity to Prohibited airspace and the requirement to operate extremely close to P56. Departing with a tailwind is never ideal and this increase in ground speed reduced the time available to the crew to identify and react to a deviation from the published departure route. Also, the boundaries of P-56 are NOT clearly depicted on the Lido chart for the JDUBB 1 RNAV. They are blocked by the course 332 to ADAXE. Although P-56A is depicted on multiple charts, several of the charts show the south western boundary in different locations. Please reference Lido charts: JDUBB 1 RNAV, CCI 02 (LOF), P56 Avoidance NAP, and Prohibited Area P56/Noise Abatement.

I was the captain of flight from DCA. During our departure briefing at the gate, we specifically noted that the winds were 170 at 6, and traffic was departing runway 1. Although the winds favored runway 19, we acknowledged that they were within our limits for a tailwind takeoff on runway 1. We also noted that Wind Shear Advisories were in effect, and we followed required procedure using a "No Flex", max thrust takeoff. We also briefed the special single engine procedure and the location of P-56. Given the visual conditions of visibility 10 SM, FEW 020 and SCT 160, our method of compliance was visual reference and we briefed "to stay over the river, and at no time cross east of the river."

Taxi out was normal and we were issued a takeoff clearance from runway 1. At 400 feet AGL, the FO was the pilot flying and incorrectly called for Heading Mode. I was the pilot monitoring and responded correctly with "NAV Mode" and selected NAV Mode on the flight control panel. The two lights adjacent to the NAV mode button illuminated. I referenced my PFD and noticed that the airplane was still in heading mode and that NAV Mode was not armed. Our ground speed was higher than normal due to the tailwind and we were

rapidly approaching the departure course. Again, I reached up and selected NAV Mode, with the same result. I referenced our location on the MFD and we were exactly over the intended departure course however we were still following the flight director incorrectly on runway heading. I said, "Turn left" and shouted "IMMEDIATELY!" The FO banked into a left turn. I observed the river from the captain side window and we were directly over the river and clear of P-56. I spun the heading bug directly to the first fix, ADAXE, and we proceeded toward ADAXE.

Upon reaching ADAXE, we incorrectly overflew it and I insisted the FO turn right to rejoin the departure. He turned right, and I said, "You have to follow the white needle" (Specifically referencing our FMS/GPS navigation). He responded, "I don't have a white needle." He then reached down and turned the Nav Selector Knob to FMS 2 which gave him proper FMS/GPS navigation. We were able to engage the autopilot at this point and complete the remainder of the JDUBB1 departure. I missed the hand off to departure control, and tower asked me again to call them, which I did. Before the hand off to center, the departure controller gave me a phone number to call because of a possible entry into P-56.

## Synopsis

Air carrier Captain reported possible entry into P-56 while departing DCA Runway 1.

## Time / Day

Date : 201705  
Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : IAD.Airport  
State Reference : DC  
Relative Position.Angle.Radial : 041  
Relative Position.Distance.Nautical Miles : 10  
Altitude.MSL.Single Value : 11500

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility.Visibility : 10  
Light : Daylight  
Ceiling.Single Value : 25000

## Aircraft

Reference : X  
ATC / Advisory.TRACON : PCT  
Aircraft Operator : Personal  
Make Model Name : Small Aircraft, Low Wing, 1 Eng, Retractable Gear  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : None  
Mission : Personal  
Flight Phase : Cruise  
Route In Use : Direct  
Airspace.Class E : PCT

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Commercial  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 1250  
Experience.Flight Crew.Last 90 Days : 17  
Experience.Flight Crew.Type : 630  
ASRS Report Number.Accession Number : 1453028  
Human Factors : Training / Qualification  
Human Factors : Confusion  
Human Factors : Situational Awareness  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.General : Police / Security Involved  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I inadvertently violated the DC SFRA. This was on a VFR flight to Lancaster, PA (LNS). I used to live in the Lancaster area and I learned to fly at LNS, [but] I rarely went into the DC area airspace, although I was familiar with the Class B rules prior to 9/11. At that time, you could fly over the top (before the SFRA/FRZ), a key memory in my decision making that day.

I normally fly IFR or VFR, but along the same route, V143 and around the west side of the Class B airspace, choosing to stay away or travel with ATC via flight following or IFR (even in clear weather). Although sometimes in clear weather, I would make the trip without radio contact during the enroute phase. I typically didn't file VFR flight plans as I am afraid that I'll forget to close them and cause a search. IFR is easier to remember from that point.

The morning of the incident, I checked weather along my IFR route using DUATS. I typically file via DUATS. My last flight, I was IFR in clear weather to LNS. The lower section of the flight, the controllers always give me direct destination, which usually lasts until close to Potomac airspace. They then route me a longer route west around the [air]space, and usually into a headwind. On my last northerly flight to LNS, I decided to cancel and ask if I could file direct and go over the Class B. The controllers let me. Unfortunately, this reinforced in my mind that you could still fly over the Class B (which after thinking about it, really doesn't make sense in the current environment). I knew there was a security zone around DC, but for some reason, I kept thinking it was ended at the top of the Class B (10000 ft). But that day, I also checked the direct weather on route. I decided to go that way. I even tried to check all of the Notams. This was also an issue because there is a lot of Notams along the route. I was mostly concerned with TFR's that might pop up on the route or special airspace. But again, the text versions of the Notams (requiring a lot of time to read through somewhat arcane format and language) worn me down (meaning comprehension dropped the longer I read).

I started the flight and considered calling up for flight following, but never did. Even as I approached the DC area, I kept thinking that I should do that, but didn't. About 5 minutes after passing almost directly over IAD on a 041 heading, I was intercepted by a military jet. The first circle, I just thought it was a close separation as he looked about 300 ft below me. After the second circle, I knew I had a problem. I tried to go onto 121.5 and call out if he was on the frequency. When I didn't get a response, I went onto a Potomac approach freq I know I used in the past for that area, and told him I had a military jet circling me. The jet went around for the third time and I rocked my wings. Potomac told



me I violated the airspace, assigned a squawk and told me to continue to destination. I was given a phone number and told to call and stay with the plane after landing, which I did. I was met by the police and eventually the Secret Service, who interviewed me and later released me, with no further concerns. In addition to the factors listed below, I could have prevented the issue by following my regular procedure of flying V143 on an IFR or VFR flight plan.

Human factors:

- Not a lot of experience on VFR into the DC SFRA
- Prior memory of pre-9/11 flying
- Wanting to avoid the longer route to the west on a clear day
- Not focused enough to read through all of the Notams in detail
- Not initiating Flight following on a VFR flight

## Synopsis

GA pilot reported being intercepted after violating the DC SFRA due to inadequate flight planning preparation.

## Time / Day

Date : 201705

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : PCT.TRACON

State Reference : VA

## Environment

Flight Conditions : IMC

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.TRACON : PCT

Aircraft Operator : Air Carrier

Make Model Name : Medium Large Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Climb

Route In Use.SID : boock 2

Airspace.Class B : PCT

Airspace.Special Use : DCSFRA

## Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1450891

Human Factors : Confusion

## Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1450892

Human Factors : Confusion

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : Clearance  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

Just after takeoff from runway 01 in DCA the aircraft entered into prohibited airspace P-56A and P-56B.

It was a fairly quick turn in DCA that required the flight crew to start the engines at the gate with the jet bridge still attached for external power. Because this was the Captain's leg to fly he gave the briefing on our departure from DCA. In his brief he gave specific instructions on the complex engine failure procedure that accompanied runway 01. In these instructions it states that DCA 0.4 DME is the decision point for how the flight crew should react to an engine failure just after takeoff. In order to identify the 0.4 DME the Captain decided to takeoff with green needles on his side so that he could identify the turning point, should it be necessary. The first officer stayed in white needles because the flight crew was planning on an RNAV departure procedure. The flight crew also discussed the proximity of the prohibited airspace to the northeast of the field and noted that the main goal of the complex engine failure procedure and the RNAV departure procedure was to avoid this airspace. Just prior to push back the flight crew was advised by ground control that they were to contact clearance for a full reroute, this was the start of a series of events that began to increase the flight crew's work load. The flight crew decided that they should proceed with the engine start process at the gate so that the ground crew could disconnect the jet bridge while they talked with clearance. A new routing was given and it included a new RNAV departure procedure, the Captain loaded the new route and briefed on the differences. The push began then normal procedures and checklists were accomplished. Taxiing out to runway 01 was fairly simple, upon reaching the runway we were number 1 for departure after what turned out to be two arrivals. Takeoff clearance was received with some hesitation due to the tower giving the wrong call sign. Just after takeoff the Captain calls for gear up, speed mode, NAV mode which was briefed. Just after the first officer executed these commands tower gave the switch to contact Potomac departure. During this time the first officer first noticed that something was wrong with the flight director's instructions and noticed that it was not making the turn that the SID required. After checking in with departure the first officer noticed that the Captain was off course and tried to bring his attention to how close they were getting to the prohibited airspace by questioning "what is the FMS doing?" hoping that that this would make him realize he was not on the right heading. Then tried to further warn and remind the Captain that they cannot go any further to the right. The first officer pointed to the left but incorrectly said "we need to go to the right". The Captain acknowledged and corrected by saying "left". The departure controller called inquiring about the flight crews efforts to get back on course and the first officer replied "we are turning now". The Captain was just starting to realize why he was off course and started asking for heading mode in order to get flight director guidance back to the SID. Once in heading mode the plane began to fly

on the correct direction but due to the multiple turns in the SID the plane went across course while the crew was working to get the FMS programmed appropriately and to get back to NAV mode on the FCP. Finally once NAV mode was selected and the FMS1 was armed and captured the plane was turning back on the routing of the SID then the Captain called for autopilot on and the first officer got back to finishing the after takeoff procedure/checklist. Then the crew was notified via ATC on the deviation from course.

## Narrative: 2

During the preflight setup and briefing, I failed to completely brief the required comments for departing from Runway 1 in DCA via the BOOCK2 RNAV departure. As a consequence, I inadvertently set up the NAV source selector for my side with DCA VOR as the source, to identify 0.4 DME, in case of engine failure. The First Officer (FO), as Pilot Monitoring (PM), was in white needles with FMS as the NAV source. I briefed the FO that we would do the RNAV departure, but did not catch that I had erroneously requested the exact opposite setup that we would need for the Captain (CA) as Pilot Flying (PF) and FO as PM for the Runway 1 departure. Due to the improper setup, I was in green needles without the proper heading selected. On takeoff I called for gear up, speed mode and NAV mode for the departure on schedule. The auto-pilot was not engaged, as it is my normal preference to hand fly departures. Shortly after reaching 400 feet, knowing we should be in a left turn, I initiated a turn to the northwest but realized that we were late for the turn, as we were beyond the middle of the Potomac. It was shortly after this that we both realized that the flight director was not giving us the desired course information. Although we initiated the turn to the northwest, it was not to a heading that would get us back on course in an expedited manner. We entered the clouds between 800 and 1400 feet and I lost visual contact with the ground. We were both attempting to identify the error and make the correction to the NAV setup, but our track was still not on course. I made an additional turn to the left. ATC queried us to determine if we were making corrections to the left to resume the departure. We were doing so, and replied in the affirmative. Shortly thereafter, we identified the error and immediately corrected the NAV source selection, ensured that the FCP was in NAV mode, selected the next fix on the departure, COVTO, and went direct to it. As we were by now nearly south of the departure course, this was the quickest route to resume the departure. We rejoined the departure and continued per normal. A few minutes later, ATC provided a telephone number to us and requested we make a call to TRACON. When my post flight duties were complete, I contacted the TRACON and it was from them that I learned we had penetrated the prohibited areas, both P56A and P56B. This was completely unintentional on our part, and resulted from an oversight on my part during the preflight portion of the flight and the improper setup of the navigation source for the CA as PF.

This could have been prevented by exercising more vigilance when briefing procedure pages in the 10-7, thus following SOP, and more vigilance to the NAV source selections. I will take further precautions in the future, to ensure that this NEVER happens again. I will be sure to continue the pursuit of the methodical and thorough adherence to SOP procedures, best practices and techniques that has been my goal from the beginning of my career.

## Synopsis

Air carrier flight crew reported entering prohibited airspace on departure from DCA due to an improper instrument set up prior to departure. ATC corrected the flight's assigned heading.

## Time / Day

Date : 201704

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : N90.TRACON

State Reference : NY

Altitude.MSL.Single Value : 900

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.TRACON : N90

Aircraft Operator : Personal

Make Model Name : Small Aircraft, Low Wing, 2 Eng, Retractable Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : N90

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 10600

Experience.Flight Crew.Last 90 Days : 100

Experience.Flight Crew.Type : 1300

ASRS Report Number.Accession Number : 1440849

Human Factors : Training / Qualification

Human Factors : Situational Awareness

Human Factors : Human-Machine Interface

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Air Traffic Control

Were Passengers Involved In Event : N  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Equipment / Tooling  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

I inadvertently penetrated a stadium TFR centered over Yankee Stadium in NYC while I flew through the Hudson SFRA. The mistake is mine, the misunderstanding is mine, and the consequences belong to me as well. I'd like to provide more perspective and also include some corrective actions I'm taking to improve myself as a result of this incident.

It is clear to me that a chain for the event was formed when I skipped getting a weather briefing from 1-800-WX-BRIEF. The bottom line is that the only way to be sure whether a TFR is active or not is to call and speak to a weather briefer, and I simply didn't do that. The initial plan was to launch and do local sightseeing. We did so, and decided only once we were airborne to proceed to the Hudson SFRA. I had checked TFRs on the ground, so I thought, by going to [tfr.faa.gov](http://tfr.faa.gov) and checking to see if a TFR was in effect. Though it was not obvious to me at the time, it is now very clearly obvious that the website warns the user in multiple locations, with white text overlaid on red highlighting, that the website may not be current and to call 1-800-WX-BRIEF for the most current TFRs. However, somehow, somehow, I've never noticed those advisories and always thought the [tfr.faa.gov](http://tfr.faa.gov) website was the best source for TFR information. In any case, I wasn't specifically looking for stadium TFRs because it was only a background thought that we may fly down the Hudson River SFRA. My primary plan was to simply fly in the local area. This was my first mistake; I should have formed a better plan before launching, and of course, call the briefer.

In the air, once we decided to fly to the Hudson River and proceed southbound, I pulled up Garmin Pilot on my EFB. I learned something critically important: the way Garmin Pilot and Foreflight depict TFRs is different. Had I looked at Foreflight even once, I would have seen a red circle showing a surface to 3,000 feet AGL TFR centered around Yankee stadium, and I never would have continued. But I didn't look at Foreflight. I looked at Garmin Pilot, which I've been using recently since it features integration features with my panel avionics. In any case, the depiction of TFRs on Garmin Pilot showed a red TFR around Trump Tower, and then a series of blue circles all over the chart including over LGA, TEB, and other locations, including Yankee Stadium. I didn't think the blue circles represented TFRs. I thought they were informational blurbs about those areas. The red circle for the Trump TFR was very obvious and drew my attention, and the blue circles just blended into the clutter of my chart, which also depicted terrain, obstacles, traffic, and weather. So lesson two is not to use a new EFB or any EFB for that matter and trust the information it presents on matters as critical as the lateral and vertical dimensions of TFRs. Only when I returned to the ground did I think to look at Foreflight, which clearly showed a red TFR circle, just like the way the Trump Tower TFR was depicted.

I made a mistake here which, had I heard of someone else doing, I would automatically assume involved a lack of experience on the part of the pilot. I could easily have avoided

this error multiple times. Instead, I went by my interpretation of my EFB display and a website which clearly doesn't depict timely TFR information. I missed multiple warnings on the FAA website advising the data was not necessarily current. I misunderstood the depiction of my EFB. And most importantly, I simply didn't pick up the phone and speak to a briefer on my way to the airport. It would have taken all of a few minutes to do so, and this incident never would have happened.

My corrective actions are:

- 1) Call the briefer, every single time I fly, even if it's just pattern work at my quiet, rural home airport.
- 2) Spend more time using and understanding my EFB software so that I actually understand the information it's presenting.
- 3) Improve my overall situational awareness. I could have just checked my phone to see if the New York Yankees were playing a game.

## Synopsis

GA pilot reported penetrating a stadium TFR in the Hudson River SFRA due to lack of familiarity with the Garmin Pilot display and overlooking currency of TFR information.

## Time / Day

Date : 201704

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 10000

## Aircraft

Reference : X

ATC / Advisory.Tower : ZZZ

Aircraft Operator : FBO

Make Model Name : Robinson R22

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Training

Nav In Use : GPS

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class D : ZZZ

Airspace.Class G : ZZZ

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : FBO

Function.Flight Crew : Instructor

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 2240

Experience.Flight Crew.Last 90 Days : 10

Experience.Flight Crew.Type : 1000

ASRS Report Number.Accession Number : 1439008

Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR



Detector.Person : Flight Crew  
When Detected : In-flight  
Result.General : Police / Security Involved  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Airspace Structure

## Narrative: 1

Was enroute to ZZZ, with thoroughly prepared flight plan using FAA approved software Foreflight. All area maps and software were current and reporting all active and inactive TFRs within state area. However, this TFR was not listed or declared as active. ZZZ Tower contacted us while refueling at their facility, providing us with a number to contact. We asked ZZZ Tower if we were clear to proceed on our flight, and they confirmed that we were. Shortly after we contacted ZZZ1 tower to be cleared into their airspace, which we were, but were instructed to contact approach. We contacted approach, and were cleared to proceed on our declared flight path, but were told to divert northbound to accommodate an inbound plane.

After we cleared the inbound plane, they instructed us to proceed on our path, and contact Tower. We contacted ZZZ1 Tower, and were told to return to ZZZ1 airport on the helipad, and were provided the approach number to contact once we landed. We followed instructions, contacted approach upon landing, and were instructed to go inside the FBO, because someone wanted to speak with us. Federal Agents interviewed myself, and the student pilot, and asked why we had busted the TFR. We immediately showed them our flight charts on Foreflight, which listed no such active TFR. They understood at that point that we had done our research, and were not imposing a threat, and had not caused an issue, and dismissed us both.

## Synopsis

R22 instructor pilot reported that after landing they were asked to meet with Federal officials for busting a TFR.

## Time / Day

Date : 201704

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : IMM.Airport

State Reference : FL

Relative Position.Distance.Nautical Miles : 28

Altitude.MSL.Single Value : 1600

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

Route In Use : Direct

Airspace.Class E : ZMA

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 715

Experience.Flight Crew.Last 90 Days : 16

Experience.Flight Crew.Type : 16

ASRS Report Number.Accession Number : 1438942

Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Conflict : Airborne Conflict

Anomaly.Deviation - Procedural : FAR

Detector.Person : Flight Crew

Were Passengers Involved In Event : N

When Detected : In-flight

Result.Flight Crew : Exited Penetrated Airspace

## Assessments

Contributing Factors / Situations : Chart Or Publication

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

I was flying to IMM on a pleasure flight and to purchase fuel at Immokalee Regional Airport as it is the cheapest fuel near my home airport. As there was a TFR in effect close to my home airport, I made sure to check and make sure that my route of flight would keep me out of the TFR. After leaving, about 3/4 of the way through my flight, I noticed a light twin engine aircraft at my altitude coming at me very rapidly from my 8 o'clock position. Fearing that the aircraft was going to impact me, I was preparing to take evasive action when it suddenly veered sharp left and pulled up alongside of me for what seemed to be about 3-4 seconds. It then executed a sharp descending left bank and disappeared.

A few minutes later I landed without incident at IMM a little shaken and wondering what the heck just happened. I knew that I could not have been anywhere near the TFR and that had this had been a military or government aircraft, it would have tried to establish communication with me by rocking its wings, but it did nothing of the kind. I went to a computer to confirm that I was nowhere near the TFR and noticed that I may have clipped the northeast corner a firefighting TFR.

Being so preoccupied with not violating the big TFR, I overlooked the possibility that there could be another TFR in the same general area and being familiar with that area, knew that there were no other permanent flight restrictions. Especially since this is a remote area in the middle of the Everglades.

## Synopsis

GA pilot reported a firefighting TFR incursion while trying to avoid another TFR in the area. When the pilot was in the TFR another aircraft formed up on him without communication, then departed after a few seconds.

## Time / Day

Date : 201703

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : KFP.Airport

State Reference : AK

Altitude.MSL.Single Value : 10500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 40

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.FSS : CDB

ATC / Advisory.CTAF : KFP

Aircraft Operator : Air Taxi

Make Model Name : Small Transport

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 135

Flight Plan : VFR

Mission : Passenger

Flight Phase : Descent

Route In Use : Visual Approach

Route In Use : Direct

Airspace.Class E : ZAN

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Taxi

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 6600

Experience.Flight Crew.Last 90 Days : 260

Experience.Flight Crew.Type : 132

ASRS Report Number.Accession Number : 1431500

Human Factors : Communication Breakdown

Human Factors : Training / Qualification

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : FAR  
Anomaly.Deviation - Procedural : Published Material / Policy  
Detector.Person : Other Person  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

I was on a VFR flight to False Pass (KFP) along the Alaskan Peninsula. I was on a company flight plan. I was flying southwest at 10,500 msl and passing Cold Bay (CDB) airport. While I was still 25 miles north east of Cold Bay, I contacted the Cold Bay FSS and gave my altitude, heading, and my route of flight. I was planning on going to False Pass airport to drop off a passenger, and then back to Cold Bay. The FSS gave me traffic and weather updates. I descended into KFP, which is about 15 miles southwest of CDB. As I entered the pattern at KFP, I was alerted by another pilot that I should be on a DVFR flight plan. When I landed I immediately called Kenai FSS because I was unaware that I was near an ADIZ. Upon further inspection, I found that KFP, which is a VFR-only airport on US soil in Alaska, is about 5 miles outside the ADIZ. My plan was to file a DVFR plan to the north while I was on the phone with Kenai FSS. Midway through my conversation with the FSS, the cell connection was lost. I tried multiple times to reach Kenai and each time was given a recording about a phone system error. Cell phone coverage in the remote villages is often very bad. I proceeded to depart KFP and immediately exit the ADIZ, and land the very first airport (CDB) about 15 miles away. Enroute I contacted the CDB FSS, and they informed me that I was being contacted on 121.5. I tried to reach someone multiple times on that frequency but received no answer. I landed at CDB 5 minutes after departing KFP.

I believe that a lot can be done to change this situation. First, I should have done better homework. This was my first time at this airport, and I did a thorough check of weather, Notams, Alaska Supplement, etc. before the flight but I relied on my GPS and nav aids rather than consulting the Sectional for navigation to the airport. Nothing about the ADIZ was noted in any of my preflight material. Also, the airplane is equipped with dual Garmin GPSs, a moving map display, ADSB, and synthetic vision. NONE of these alerted me to the close proximity of the ADIZ. Also, when I spoke to the FSS well northeast of the ADIZ, and expressed my route of flight, absolutely nothing was mentioned to me about the ADIZ on my route of flight even though I did not have a flight plan in his system. It would have been extremely simple to land and file a DVFR flight plan at that moment. Also, why is a State-run, VFR only village airport in Alaska this close to an ADIZ? The ADIZ needs to be moved in my opinion. There is a lot of air traffic in that area, and not all of it is IFR. The cell phones are regularly a problem in the Alaskan villages, and any airplane that lands at KFP and cannot contact the FSS is stuck outside the ADIZ. This is a problem. Finally, I spoke with my Chief Pilot and Director of Operations. They are immediately issuing a company bulletin for all pilots about the location of the ADIZ in order to prevent future incursions.

## Synopsis

An air taxi pilot was informed by another pilot in the traffic pattern at KFP that he should be on a DVFR flight plan since the airport is 10 NM into the Alaskan ADIZ.

## Time / Day

Date : 201702

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : CHS.TRACON

State Reference : SC

Altitude.MSL.Single Value : 1100

## Environment

Flight Conditions : VMC

Weather Elements / Visibility : Haze / Smoke

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

RVR.Single Value : 6000

## Aircraft

Reference : X

ATC / Advisory.TRACON : CHS

Aircraft Operator : Personal

Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Route In Use : Visual Approach

Airspace.Class E : CHS

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 237

Experience.Flight Crew.Last 90 Days : 6

Experience.Flight Crew.Type : 237

ASRS Report Number.Accession Number : 1426251

Human Factors : Confusion

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : FAR

Detector.Automation : Air Traffic Control

Detector.Person : Air Traffic Control

When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I received a NOTAM through AOPA member services about a TFR. I read the NOTAM and understood the TFR would be in effect from XA: 30 through XD: 15 local time.

I understood the TFR extended to a 30 NM radius from the CHS VORTAC. I read that flights at RBW would be affected. I used a NM plotter and sectional to measure the distance from the CHS VORTAC to RBW and found that RBW was just outside the 30 NM radius. Thus, I assumed only flights arriving and departing to the east of RBW and penetrating the 30 NM radius was required to use the ATC services.

Previous TFRs at CHS, had not included the RBW airport. I departed RBW approximately XC: 35 local to the west. After flying westward for approximately 15 minutes, I turned back toward RBW.

With a Garmin GPS and distance measuring from the CHS VORTAC, I carefully flew the pattern at RBW to ensure I did not penetrate the 30 NM radius for the TFR, and I landed back at RBW approximately XD: 00. When I arrived at the FBO, I received a call from ATC informing me of a possible violation.

It is my belief that I did not violate the airspace and I used due caution to avoid it. If I misunderstood the intent of this TFR, I sincerely apologize. I would never want to create an unsafe condition.

I respectfully offer this observation, this TFR was ambiguous in that the airport I used (RBW) was not included in the 30 NM radius, yet the NOTAM stated it would be affected without clarifying how it would be affected. I would offer this suggestion. If an airport is mentioned in the NOTAM, clearly include all the airspace around that airport in the restricted airspace area. Thank you.

## Synopsis

GA pilot reported researching a planned TFR and believe was successful in avoiding it, but was advised by ATC of a possible pilot deviation.



## Time / Day

Date : 201702

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : SCT.TRACON

State Reference : CA

Altitude.MSL.Single Value : 1800

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft

Reference : X

ATC / Advisory.TRACON : SCT

Aircraft Operator : Corporate

Make Model Name : Small Aircraft, High Wing, 1 Eng, Fixed Gear

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 135

Flight Plan : None

Mission : Traffic Watch

Flight Phase : Cruise

Route In Use : None

Airspace.Class E : SCT

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Instrument

Experience.Flight Crew.Total : 890

Experience.Flight Crew.Last 90 Days : 300

Experience.Flight Crew.Type : 500

ASRS Report Number.Accession Number : 1424783

Human Factors : Confusion

Human Factors : Distraction

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Requested ATC Assistance / Clarification  
Result.Air Traffic Control : Issued New Clearance

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Procedure

## Narrative: 1

While flying traffic watch, we were sent to report on [an event] occurring [near Anaheim]. Before entering Fullerton's (FUL) airspace from the east over the 91 freeway, I called FUL and requested a 91 west transition and informed the controller I would be headed into the Disney TFR. At that time I got cleared for the transition, but no squawk code. Noting that, I requested a squawk code and again informed the controller that I would need to be working inside the Disney TFR.

I was told to standby and I continued west along the 91 freeway. A moment later I received my code from the controller and was asked if I was turning south towards Disney. I replied that I was and was then given a frequency change to SoCal (TRACON). SoCal was extremely busy so by the time they replied to my initial calls, I was already beginning to circle the [event] inside the TFR. Shortly after I was asked to ident. SoCal saw my ident and stated that I was inside the TFR, asked me how I felt about that, and stated that I had not received clearance into the TFR. I was then asked to leave the area. No statement of violation was made at that time.

I was given a discretionary code and had informed TRACON of my intentions. In the past I have worked inside of the Disney TFR by using the same method. I have always asked TRACON to enter, but to my recall have never heard the phrase "cleared into the TFR".

Another consideration was that I was rushing a bit to get to the scene of the [event]. Also, FUL's airspace abuts the northern edge of the TFR with its southern border where I entered. Time was short.

Going forward I will be sure to not only get a discretionary code, but I will be sure to receive an actual clearance to enter the TFR.

## Synopsis

Traffic watch pilot reported entering a TFR on correct code and was later questioned by ATC as to not having a clearance into the TFR.

## Time / Day

Date : 201702  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : PBI.Airport  
State Reference : FL  
Relative Position.Distance.Nautical Miles : 26  
Altitude.MSL.Single Value : 3500

## Environment

Weather Elements / Visibility.Visibility : 10  
Light : Daylight  
Ceiling : CLR

## Aircraft

Reference : X  
Aircraft Operator : Personal  
Make Model Name : Small Aircraft, High Wing, 1 Eng, Fixed Gear  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : VFR  
Mission : Personal  
Flight Phase : Cruise  
Route In Use : Direct  
Route In Use : Visual Approach  
Airspace.Class E : PBI

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Private  
Experience.Flight Crew.Total : 300  
Experience.Flight Crew.Last 90 Days : 25  
Experience.Flight Crew.Type : 120  
ASRS Report Number.Accession Number : 1422587

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented

## Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

### Narrative: 1

I was flying down trying to fly around the POTUS TFR in PBI and thought I was clear of the TFR but I wasn't, I made a big mistake and was intercepted for flying in the TFR. I knew about the TFR, had briefing on it and I flew just east of PHK airport, I thought I was clear but I miscalculated my course around the TFR, and I will absolutely make this a learning experience and not let this happen again. I will plan a better course around it and use better communication and ask the tower for permission or if I am clear to go through the POTUS TFR.

### Synopsis

GA pilot reported he flew into a POTUS TFR and was intercepted.

## Time / Day

Date : 201701

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : DCA.Airport

State Reference : DC

## Environment

Flight Conditions : IMC

Weather Elements / Visibility : Turbulence

## Aircraft

Reference : X

ATC / Advisory.Tower : DCA

Aircraft Operator : Air Carrier

Make Model Name : EMB ERJ 170/175 ER/LR

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Flight Phase : Final Approach

Airspace.Class B : DCA

Airspace.Special Use : P56

## Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 1034

ASRS Report Number.Accession Number : 1419164

Human Factors : Situational Awareness

## Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Type : 130

ASRS Report Number.Accession Number : 1419163

Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Exited Penetrated Airspace  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Weather  
Primary Problem : Weather

## Narrative: 1

Approaching DCA we were informed by ATC winds are 060 at 18 gusting 39. Shortly after while on the approach we experienced wind shear. I immediately executed a go-around and followed the wind shear escape guidance. As per SOP set max thrust, press TOGA button, disconnect auto throttle, disconnect autopilot, maintain wings level, and pitch to follow wind shear guidance. Return to desired flightpath. When the aircraft [has] escaped from wind shear, request a vertical and lateral mode to exit WSHR/ROLL mode. When the aircraft was in a safe flight attitude and wind shear was escaped I immediately executed a left turn to avoid the P56 prohibited area. ATC then issued heading directions and we followed. At this time we were made aware that we may have violated P56 and issued a phone number. When we got on the ground and were safely at the gate we contacted ATC and gave the air traffic controller the required information.

At the time of the go around due to wind shear safety of flight was in jeopardy, if the proper wind shear procedures were not followed correctly. I believe I did everything in my power to keep the aircraft in a safe flight attitude while complying with the P56 restrictions. As soon as wind shear was escaped we complied with every other aspect of ATC directions.

## Narrative: 2

[Report narrative contained no additional information.]

## Synopsis

ERJ-170 flight crew reported an incursion into P56 during a go-around after encountering wind shear on approach to DCA.

## Time / Day

Date : 201701

Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : ZMA.ARTCC

State Reference : FL

Altitude.MSL.Single Value : 15500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Night

## Aircraft

Reference : X

Aircraft Operator : Government

Make Model Name : Super King Air 300

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Personal

Flight Phase : Cruise

Route In Use : None

## Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Government

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Flight Instructor

Qualification.Flight Crew : Multiengine

Experience.Flight Crew.Total : 5500

Experience.Flight Crew.Last 90 Days : 60

Experience.Flight Crew.Type : 800

ASRS Report Number.Accession Number : 1418426

Human Factors : Communication Breakdown

Human Factors : Situational Awareness

Communication Breakdown.Party1 : Flight Crew

Communication Breakdown.Party2 : ATC

## Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Government

Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
ASRS Report Number.Accession Number : 1418433

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : Clearance  
Detector.Person : Flight Crew  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Flight Crew : Became Reoriented  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Human Factors

## Narrative: 1

While flying a government aircraft on a government mission approximately 20 miles east of Titusville Florida as the Pilot in Command, the crew was called by a government non-FAA radar flight following center with directions to make a 180 degree turn and contact MIAMI Center. We contacted MIAMI Center and were directed to proceed north clear of the KENNEDY SPACE CENTER FAR 91.143 SPACE OPERATIONS AREA due to an impending rocket launch from the CAPE CANAVAREL SPACE CENTER. While diverting north clear of the airspace the aircrew queried the MIA ATC Controller about the airspace activity. The aircrew relayed to the controller that they had checked for TFR activity for Space Operations prior to flight during flight planning and did not see one, the Controller said that he would get back with the aircrew in minute. When the Controller called back and informed the aircrew he didn't see the NOTAM either and then gave the aircrew a frequency change. The next controller continued flight following services and gave the aircrew a number to call after landing. During the flight we were also monitoring 121.5 on the secondary vhf radio on which we did not receive a call, our first indication of an issue was with our non-FAA government radar flight following center. After landing we contacted MIAMI CENTER at the number provided to discuss the airspace issue. During the preflight phase there was no Notam/TFR depicted on the flight planning system the aircrew used. There were other TFR's depicted, but this one was not. After landing we researched the historical Notam's for MLB and could not find a Notam for this rocket launch. The Sectional for this area (Jacksonville) indicates the airspace is active indicated by Notam for Melbourne (MLB). In the past the TFR has always shown up the flight planning systems used, but this evening it did not. We received a list of Notams from MIAMI CENTER that listed a NOTAM for KZMA A0040/17 that stipulated MIAMI Center will not approve IFR Flights and VFR flights should exercise extreme caution within the area defined (which is the Space Center Airspace). We as an aircrew always use due diligence when operating in this area, since we operate in it routinely (almost daily). The main goal of this report is to figure out how on this one occasion we ended up in the Space Flight Area during an active period, when we checked for the specific Airspace activity as we always have done. Flight time used in the Flying Time section of this form is approximate.



## Narrative: 2

[Report narrative contained no additional information.]

## Synopsis

A King Air 300 flight crew reported nearly flying into an active missile launch zone. The crew commented that there were no NOTAMs or other common alerts informing crews before takeoff. ATC was able to keep the flight clear of the airspace.

## Time / Day

Date : 201612

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : DCA.Airport

State Reference : DC

## Environment

Flight Conditions : IMC

Weather Elements / Visibility : Icing

Light : Dawn

Ceiling.Single Value : 800

## Aircraft

Reference : X

ATC / Advisory.TRACON : PCT

Aircraft Operator : Air Carrier

Make Model Name : Medium Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use.Localizer/Glideslope/ILS : Runway 19

Flight Phase : Descent

Flight Phase : Initial Approach

Flight Phase : Cruise

Airspace.Class B : DCA

## Component

Aircraft Component : Ice/Rain Protection System Indicating & Warning

Aircraft Reference : X

Problem : Malfunctioning

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Pilot Not Flying

Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1409840

Human Factors : Troubleshooting

## Events

Anomaly.Aircraft Equipment Problem : Less Severe  
Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Inflight Event / Encounter : Weather / Turbulence  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Executed Go Around / Missed Approach  
Result.Flight Crew : Exited Penetrated Airspace  
Result.Flight Crew : Overcame Equipment Problem  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Weather  
Primary Problem : Airspace Structure

## Narrative: 1

This event occurred on the first leg of the third day of a four-day trip. The departure was uneventful other than a relatively quick run through the de-ice pad to clear some accumulated ice and apply type-4 anti-ice fluid. We were cleared for the SKILS3 arrival as filed and commenced the descent as published. Somewhere around BWI with TAT between 0 and 10, we received a L WING ANTI-ICE Caution prompting the flying pilot to call for the appropriate QRH. We completed the associated procedures as dictated by company SOP, which consisted primarily of selecting the 14th stage Isolation (ISOL) valve. The temperature then rose above the 10 degree threshold and the caution message went away only to return some minutes later. The Captain again called for the QRH, which dictated placing the Wing Anti-Ice switch to the Standby position. This again cleared the message, but we reviewed the entire checklist in the event that the Caution returned and further checklist execution was required. Meanwhile, though we discussed the possibility, feasibility, and fuel implications of diverting to RIC, we made the decision to continue on the arrival and land at DCA, the nearest suitable airport. They were landing 19, and we set up for the Localizer Directional Aid Z 19 Approach, which would just allow us to get in based on the prescribed weather minimums. Temperature continued to fluctuate in and out of icing range but the anti-ice system appeared to be operational. At this point, we were descending between 3000 feet and 4000 feet when Potomac Approach vectored us off of the arrival direct to FERGI. Having been a few miles directly east of the fix, this resulted in a relatively severe intercept angle, roughly 90 to 100 degrees off of the final approach course. While not ideal, we viewed this as certainly doable given the current circumstances. We turned in to join the localizer and were pushed east by strong westerly winds that resembled a false capture initially. Though still slightly east of the final approach course at BESSE, the FMS/autopilot appeared to be making the necessary adjustments to bring us where we needed to be, but the Captain selected heading mode and adjusted accordingly to keep us where we thought would be clear of prohibited airspace. Airspeed was still high, somewhere between 230 and 250, so we dropped the gear out of sequence to aid in reducing airspeed in attempt to be configured in accordance with the profile. At this point, realizing that we were going to put ourselves in a potentially hazardous situation in light of the current weather conditions, the aircraft issues, and the delayed configuration, the go-around was called for and initiated. With throttles advanced and positive rate climb established and verified, the gear up call was made. I reflexively

raised the gear handle, which was immediately met by the GEAR DISAGREE message due to airspeed having been over 200 knots. We continued the climb out, made the necessary calls, turned to the assigned heading, and continued monitoring the Caution messages for a return of the anti-ice issues before leveling off, calling for the QRH, and correcting the landing gear issue. We had been handed back to Potomac Approach by this point, advised them of our intention to recommence the approach, and continued without issue. Once we cleared the runway and were passed to the ground controller, she advised us to call them upon shutdown when they informed us of a possible violation of P-56B.

## Synopsis

Air carrier First Officer reported multiple issues while operating in winter conditions in an attempt to land at DCA. First approach required a go-around but the second approach was successful.

## Time / Day

Date : 201611

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.AGL.Single Value : 144

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : UAV - Unpiloted Aerial Vehicle

Operating Under FAR Part.Other

Flight Plan : None

Mission : Utility

Flight Phase : Cruise

Airspace.Class G : ZZZ

Airspace.TFR : FIRE

## Person

Reference : 1

Location Of Person : Hangar / Base

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private

Experience.Flight Crew.Total : 120

Experience.Flight Crew.Last 90 Days : 2

Experience.Flight Crew.Type : 30

ASRS Report Number.Accession Number : 1405965

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : FAR

Detector.Person : Flight Crew

When Detected : Routine Inspection

Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Procedure

Primary Problem : Procedure

## Narrative: 1

I performed an unmanned aircraft operation lasting 4 minutes and 46 seconds reaching a maximum altitude of 144 feet AGL travelling a maximum distance of 800 ft. The purpose of the flight was to survey damage to our second residence. Prior to travelling to the area, I had checked for a TFR and found one active in the area with a 5 NM radius. My planned area of flight was approximately 2 NM outside of the published TFR map and not within the vicinity of any active firefighting activities as they had moved back into the area. After completing the flight and returning home, I was self-debriefing and discovered the TFR had been expanded to cover the area of my operation just prior to my flight. Since no firefighting or emergency response activities were occurring in the area at the time of the flight, I had no reason to believe the original TFR was not still valid. Due to the lack of cellular data service in the area, I would not have been able to access updated TFR information prior to the operation. No conflicts or accidents occurred as a result of my operation.

## Synopsis

A UAS pilot reported that he discovered after his flight that a nearby TFR had been expanded to include the area of his previous operation.

## Time / Day

Date : 201611

Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : PCT.TRACON

State Reference : VA

## Environment

Flight Conditions : VMC

Light : Night

## Aircraft

Reference : X

ATC / Advisory.TRACON : PCT

Aircraft Operator : Air Carrier

Make Model Name : Medium Large Transport, Low Wing, 2 Turbojet Eng

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Flight Phase : Initial Approach

Route In Use : Visual Approach

Airspace.Class B : DCA

Airspace.Special Use : P-56

## Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1402009

Human Factors : Distraction

Human Factors : Situational Awareness

Human Factors : Workload

## Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1402012

Human Factors : Workload  
Human Factors : Distraction  
Human Factors : Confusion  
Human Factors : Situational Awareness

## Person : 3

Reference : 3  
Location Of Person.Facility : PCT.TRACON  
Reporter Organization : Government  
Function.Air Traffic Control : Approach  
Qualification.Air Traffic Control : Fully Certified  
Experience.Air Traffic Control.Time Certified In Pos 1 (mon) : 6  
ASRS Report Number.Accession Number : 1401094  
Human Factors : Workload  
Human Factors : Distraction  
Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Deviation - Track / Heading : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : Clearance  
Anomaly.Inflight Event / Encounter : CFTT / CFIT  
Detector.Person : Air Traffic Control  
Detector.Person : Flight Crew  
When Detected : In-flight  
Result.Flight Crew : Returned To Clearance  
Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Airspace Structure

## Narrative: 1

As Captain, I improperly identified the Potomac River and aircraft in front of us after a very busy vectoring and speed sequences. To reduce some of our workload, I loaded several fixes into the FMS to facilitate the prohibited airspace issues within the DCA environs. After being cleared for the River Visual, the FMS did not sequence as anticipated and because I had misjudged the River, I subsequently overshot the river boundaries and entered P56-B. I initiated a turn to correct my error and at the same time Potomac Approach issued immediate turns and climbs to discontinue the approach.

After our break off, we were being re-vectoring, we were asked if we were ready to turn back in (I note this because this is an example of being rushed) and accept another approach. We communicated to continue on a heading for a little longer to complete our checklist and get set up for another try.

It has been sometime since I have done the River Visual 19 at night with the lighting effects and shadows. The Jepp Plate for River Visual 19 notes the RNAV 19 which is not



loaded in our database. This may be useful to look into to see if our databases can accept this. Also, on our other chart info (10-7 and other reference pages), we illustrate the DCA-328 radial as a method of tracking for RWY 1 departures. This could be used as a "boundary" reference for inbound arrivals.

I literally forgot about the black-hole this approach sometimes creates. Still, at my level of experience, I am quite disappointed. This event rests solely on my shoulders.

Add in our [manual] pages to depict the DCA-328 for RW19 arrivals and RW 1 arrivals/departures unless our FMS database can be updated. This should help reduce our P56 incursions.

## Narrative: 2

The occurrence happened flying into DCA on the river visual RW19. [The Captain] is my OE (Operating Experience) instructor and was the pilot flying. It was clear weather and night time. ATC was very busy and had several airplanes in line for the approach. ATC directed us to descend and fly different headings and prompted us several times to find the river and look for traffic for us to follow. The Captain (pilot flying) was very task saturated with requests from ATC. I had the river and eventually the traffic in sight and waited until the Captain said he had both in sight, prompting me to advise ATC we had the river and traffic in sight. We were around FERGI intersection when we accepted approach clearance.

I averted my attention to keep my eye on the Airbus a ways in front of us and tended to PM (Pilot Monitoring) duties inside the airplane. I believe the Captain lost sight of the river passed DARIC intersection and neglected to make the right turn to follow the river and instead went straight into Prohibited Area P-56B. We were then immediately instructed to climb and turn away from the Prohibited Area and were canceled approach clearance. We performed a go-around maneuver, ran checklists, re-set up for the approach and attempted it again. The second approach attempt was successful and we landed safely.

I personally have never performed a published visual approach in a plane or in the simulator in training; nor have I flown in DCA airspace. As a new hire FO (First Officer) on OE, I relied on my captain's knowledge and experience to be situationally aware with the river visual and procedures going into DCA. I believe incorporation and explanation of this approach in the new hire training program would help fresh co-pilots feel somewhat familiar with the real river visuals into DCA. Had I been more familiar with the procedure, I believe I could have further helped avoid this deviation and aided the pilot flying with performing this approach. This has taught me as pilot monitoring to place more emphasis in looking outside the airplane during critical phases of flight such as a visual approach to further aid the pilot flying in situational awareness.

I have also taken away from this situation to initiate a go around or ask for missed approach instructions if I am the pilot flying and have lost sight of the runway/airport or the river (on a published visual approach). And as the pilot monitoring, to query the pilot flying if he/she seems unsure of the situation.

## Narrative: 3

[The aircraft] was an arrival into DCA. The pilot was cleared for a Charted Visual Approach to follow traffic. I noticed the aircraft looked off course (left of course landing Runway 19, a south operation). The dilemma with this aircraft is that they were below minimum vectoring altitude in the center of antennas and heading for the White House a Prohibited

Area up to FL180 (P56). I was not sure what to do first except to climb the aircraft to get them out of the antennas and then turn them as to not enter Prohibited Area (P56). With that being said, they had to be turned back toward the final which causes other issues and where there were other aircraft on final.

This piece of airspace does not allow for error on anyone's part be it me the Controller or the Pilot. It's an unsafe area because of P56.

## Synopsis

Flight Crew and Controller reported of the flight being off course and entering Restricted Area P-56. Controller reported of aircraft being below the Minimum Vectoring Altitude and needing to vector aircraft out of P56. Pilot reported of improperly identifying the Potomac River and the aircraft to follow.

## Time / Day

Date : 201610  
Local Time Of Day : 1801-2400

## Place

Locale Reference.Airport : MCO.Airport  
State Reference : FL  
Relative Position.Angle.Radial : 270  
Relative Position.Distance.Nautical Miles : 5  
Altitude.MSL.Single Value : 10500

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility.Visibility : 50  
Light : Night  
Ceiling.Single Value : 18000

## Aircraft

Reference : X  
ATC / Advisory.TRACON : MCO  
Aircraft Operator : Personal  
Make Model Name : Small Aircraft, High Wing, 1 Eng, Fixed Gear  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : None  
Mission : Personal  
Flight Phase : Cruise  
Route In Use : Direct  
Airspace.Class E : MCO

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Private  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 1272  
Experience.Flight Crew.Last 90 Days : 46  
Experience.Flight Crew.Type : 1253  
ASRS Report Number.Accession Number : 1399126  
Human Factors : Other / Unknown  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.General : None Reported / Taken

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Weather  
Primary Problem : Human Factors

## Narrative: 1

I piloted my aircraft, overflying the Orlando International Airport (MCO) Class B airspace at 10,500 feet. I was flying VFR (squawking 1200), I did not file the optional VFR flight plan, and I did not use VFR flight following as I have made several similar flights in the past and was familiar with the route. I did not call flight services to check for Temporary Flight Restrictions (TFRs) because I am on auto-distribution for TFRs via my e-mail address.

Upon landing at SEF, I was met by the airport manager, who informed me that I had violated a presidential TFR (18,000 feet and 30 NM) over Orlando. Mortified, I spoke with an FAA representative over the phone and provided him with all the requested information. I explained to the FAA representative that I rely on TFR notifications via e-mail, and I did not receive a TFR notification for Orlando. I also explained that I am very sensitive to TFR and SFRA incursions given that I am based in Northern Virginia. I did ask why jets were not scrambled to intercept me, and he explained that it was because I flew absolutely straight and level over the entire Orlando Class B airspace without any deviation, whatsoever. He explained that it was obvious, given the extent of the TFR incursion (46 minutes in duration) and the slow speed of my aircraft, that I was unaware of the TFR and likely not an immediate threat. Had I deviated anything (altitude, direction or squawk code), I would have been intercepted.

Upon checking into the hotel, I searched for the Orlando TFR online and could not find any record of it. I screen-captured the following four (4) TFRs for Florida:

- 1) 10/2016: Air Show in Jacksonville, FL from 11/2016 - 11/2016.
- 2) 10/2016: Air Show in Stuart, FL from 11/2016 - 11/2016.
- 3) 10/2016: Air Show in Homestead ARB, FL from 10/2016 to 11/2016.
- 4) 10/2016: Security TFR over Disney World (permanent).

I then spoke with a colleague whose father is a pilot. Her father searched and also could not find any presidential TFR published for Orlando for that date. I went back and reviewed the following presidential TFRs that I did receive via e-mail for the weeks prior and following:

- 1) 10/2016: unspecified - Dayton, OH on 10/2016 (no map)
- 2) 10/2016: 30NMR/10NMR - Raleigh, NC on 11/2016 (no map)
- 3) 10/2016: unspecified - Rock Hill, SC / Charlotte, NC on 11/16 (no map)
- 4) 10/2016: 10/30 NMR - Greensboro, NC on 11/16 (no map)
- 5) 10/2016: 10/30 NMR - Columbus, OH on 11/16 (no map)
- 6) 10/2016: 10NMR - Raleigh/Durham, NC on 11/16 (with map)

- 7) 11/2016: 10NMR/32NMR - Charlotte, NC on 11/16 (no map)
- 8) 11/2016: 32NMR/10NMR - Fayetteville, NC on 11/16 (no map)

Because I never received notification of the presidential TFR over Orlando, FL, I wonder if there is a radius-based filter on the TFR notifications that I receive from the FAA. It is obvious that I don't receive TFR notifications for California, but since I receive TFR notifications for as far north as Boston, I made the false presumption that I would receive them for the entire East Coast. I am sickened that I made such an avoidable mistake, and it has been an absolute wake-up call for me.

## Synopsis

GA pilot reported being informed after landing that he had flown through a TFR over MCO that he was not aware of. He had relied on TFR notifications via e-mail which he did not receive and no record of the TFR could be found on the FAA website.

## Time / Day

Date : 201610  
Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : ZZZ.Airport  
State Reference : US  
Altitude.MSL.Single Value : 9000

## Environment

Flight Conditions : VMC  
Weather Elements / Visibility.Visibility : 12  
Light : Daylight

## Aircraft

Reference : X  
ATC / Advisory.Center : ZZZ  
ATC / Advisory.TRACON : ZZZ  
Aircraft Operator : Personal  
Make Model Name : PA-28R Cherokee Arrow All Series  
Crew Size.Number Of Crew : 1  
Operating Under FAR Part : Part 91  
Flight Plan : IFR  
Mission : Personal  
Nav In Use : GPS  
Flight Phase : Cruise  
Airspace.Class E : ZZZ

## Component

Aircraft Component : DC Generation  
Aircraft Reference : X  
Problem : Failed

## Person

Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Personal  
Function.Flight Crew : Pilot Flying  
Function.Flight Crew : Single Pilot  
Qualification.Flight Crew : Private  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 690  
Experience.Flight Crew.Last 90 Days : 60  
Experience.Flight Crew.Type : 500  
ASRS Report Number.Accession Number : 1395143  
Human Factors : Communication Breakdown  
Communication Breakdown.Party1 : Flight Crew  
Communication Breakdown.Party2 : ATC

## Events

Anomaly.Aircraft Equipment Problem : Less Severe

Anomaly.Airspace Violation : All Types

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Overcame Equipment Problem

Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Aircraft

Primary Problem : Aircraft

## Narrative: 1

Enroute on an IFR plan at 9000 feet in VMC I noticed the ammeter was reading zero. I turned off all unnecessary equipment to include autopilot, 2nd COM/NAV radio. I also lowered the screen brightness on GPS to minimum level. I recycled master and waited 30 seconds. Attempted this twice. I then noticed the volt meter begin to drop. I contacted ATC and informed them I was losing electrical and would like to cancel IFR and proceed VFR to my destination. I asked for a VFR altitude and was given and climbed to 9500 feet. I changed my squawk to VFR. I recycled my electrical and was briefly able to reach ATC and was given a unique squawk code by ATC. After I lost my aircraft radios completely and realized my handheld was not working, I began to squawk 7600, just in case the transponder had sufficient electrical to function

Though ATC did not object to me proceeding VFR to my destination, I thought it prudent to attempt contact to confirm there were no issues with my plan to continue the flight. I was unable to reestablish contact. Therefore, I continued as discussed with the last controller with whom I could communicate. I continued at 9500 feet and then began a vfr descent to 5500 which would place me 500 feet above Class C airspace. Upon reaching this altitude, I attempted to contact approach via my handheld and was successful. The controller was aware of my situation and directed me to not descend below 5500 feet. I told him I planned to proceed to ZZZ he advised he would prefer I go to ZZZ as [the main] airport was very busy. As I was proceeding to my destination, I was warned by Foreflight that I was about to enter a TFR. I changed course to avoid the TFR, not having sufficient time to determine if the TFR was active. I attempted to contact approach to inform him of this course change (though he had not told me to hold a heading). I finally did reach him as I was turning back to the east as I circled around the TFR. He advised me TFR not yet active and to maintain my current heading. I proceeded at the current heading, though I may have deviated somewhat as I had only noted the direction on my iPad and not the actual heading on the DG. If I did deviate, ATC did not inform me. After a while approach advised me to turn direct to ZZZ and to inform him when I began my descent. I proceeded to turn and hold altitude, and quickly realized I had lost 200 ft. which I quickly regained. I then advised ATC that I was ready to begin my descent. I proceeded to ZZZ while beginning my descent as directed and informed approach when I had ZZZ in site. I landed without incident, using manual override to lower landing gear. I had been asked by approach to call them to advise safe landing, but upon landing was informed by airport staff that ATC had called them and were informed I had landed safely. I proceeded to secure my aircraft and did call approach to thank them for their help.

I decided to continue to ZZZ rather than land immediately for several reasons. Of primary importance, the aircraft was running perfectly and there were no indications of a failure that would compromise safety. I knew electrical was not necessary for the engine to

continue to run. Having briefed the weather and with independent battery powered ADSB weather and navigation coupled with my iPad onboard, I knew I could reach the airport VFR. I also had a handheld radio and even though I had not been able to reach center at 9500 ft. I felt I would be able to reach approach and the traffic advisory frequency at ZZZ when at a lower altitude. I did not want to land at an unknown airport for which I had no accommodations or knowledge as to maintenance personnel to repair the aircraft. This was especially important given the purpose of the trip was to take my son, a cancer patient who was in between chemotherapy treatments for a few days to enjoy the mountains. If I landed elsewhere, it may have been difficult to have the aircraft repaired or to find accommodations and a rental car to return back home. I had been to ZZZ before and knew they had a large general aviation community and I expected it would be easy to find a qualified mechanic. Further, we already had a place to stay and a vehicle. Continuing VFR to our destination was the best choice.

Thoughts about the flight:

- 1) The decision to cancel IFR and proceed VFR to my destination did not compromise safety. I maintained VFR taking care to not invade airspace where radio communication was required. When near class C airspace, I successfully established communication with ATC using my handheld and followed their directions.
- 2) I probably should not have changed my squawk code to VFR without direction from ATC.
- 3) I should purchase headset attachment as I believe any deviations which may have occurred during this flight were due to having to remove my headset in order to speak on a handheld in a noisy aircraft.

## Synopsis

During cruise, on an IFR flight plan, the pilot of a Piper Arrow PA28R-180 reported noticing he was losing electrical power. The pilot continued to his destination VFR while using a handheld radio to communicate with ATC.



## Time / Day

Date : 201610

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : SLC.Airport

State Reference : UT

Altitude.AGL.Single Value : 6

## Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 20000

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : UAV - Unpiloted Aerial Vehicle

Operating Under FAR Part.Other

Mission : Personal

Flight Phase : Cruise

Route In Use : None

Airspace.Class B : SLC

## Person

Reference : 1

Location Of Person : Gate / Ramp / Line

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Experience.Flight Crew.Type : 20

ASRS Report Number.Accession Number : 1394042

Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : FAR

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Flight Crew

When Detected : In-flight

Result.Flight Crew : Became Reoriented

Result.Flight Crew : Exited Penetrated Airspace

Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Chart Or Publication

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

## Narrative: 1

Preflighted the area that day, looking for active TFRs or controlled airspace. The area I wanted to fly at looked clear of SLC or any TFRs. I went to fly low level over a pond at Memory Grove Park, UT (2-10AGL). I took off, hovering at 6 ft AGL, and my phone provided an alert I may be close to a caution area (DJI APP Notification). I was 5 miles East of SLC, I opened my phone to pull up the SLC VFR TAC, and noticed I was closer than expected to the border of the SLC Class B shelf. I immediately landed the aircraft from the 10 ft AGL altitude. The duration of the flight was around 1 minute.

From now on, I'll always use the GPS in Garmin Pilot in correlation with the VFR Sectional, VFR TAC, and continue checking for active TFRs before I fly at the exact location. As Small drone operating systems are becoming more complex and user friendly, I'd be good for them to incorporate the VFR Sectionals and TAC into the operating system to make pilots fully aware of their location in relation to airspace around them.

## Synopsis

A DJI Phantom UAS pilot launched after checking diligently for TFR and controlled airspace. However, after takeoff his DJI phone app alerted his aircraft proximity to SLC Class B. The UAS flight was aborted.

## Time / Day

Date : 201609

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : OW0.Airport

State Reference : WA

Relative Position.Distance.Nautical Miles : 3

Altitude.MSL.Single Value : 1000

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft : 1

Reference : X

ATC / Advisory.CTAF : OW0

Aircraft Operator : Personal

Make Model Name : Cessna 180 Skywagon

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

Airspace.Class G : OW0

## Aircraft : 2

Reference : Y

Make Model Name : Seaplane or Amphibian

Airspace.Class G : OW0

## Aircraft : 3

Reference : Z

Make Model Name : Seaplane or Amphibian

Airspace.Class G : OW0

## Aircraft : 4

Reference : A

Make Model Name : Seaplane or Amphibian

Airspace.Class G : OW0

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Pilot Flying

Function.Flight Crew : Single Pilot

Qualification.Flight Crew : Private  
Experience.Flight Crew.Total : 140  
Experience.Flight Crew.Last 90 Days : 35  
Experience.Flight Crew.Type : 115  
ASRS Report Number.Accession Number : 1391305  
Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.Conflict : NMAC  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 150  
Miss Distance.Vertical : 150  
When Detected : In-flight  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Procedure  
Contributing Factors / Situations : Human Factors  
Primary Problem : Ambiguous

## Narrative: 1

I was operating a Cessna 180 floatplane in VMC on a VFR flight, in the vicinity of OWO in downtown Seattle, Washington, when I inadvertently entered one of the hot sports stadium TFRs. This action was necessitated and justified under FAR 91.3, as explained below.

My flight originated from a private water operations site close to the Class D airspace at RNT. Prior to takeoff, I checked all relevant NOTAMS and received the ATIS for RNT. I also received takeoff clearance and permission to operate within the RNT Class D so as to transit north and west to be clear of the SEA Class B and BFI Class D airspaces.

After clearing the RNT area, I was close to the University of Washington and headed southwest, under the SEA Class B. I was monitoring the CTAF of 122.9 in the vicinity of OWO on Lake Union.

As I got closer to OWO, I was aware of the possible presence of active commercial seaplane activity on Lake Union. Therefore, using the OWO CTAF, I announced my call sign, position, altitude, and stated my intent to transition slightly north of OWO, from east to west, through the ship canal. This is a common transition route used by local pilots and it is familiar to seaplane pilots who fly in this area.

After I made the radio call on the OWO CTAF, I determined that there were three other floatplanes also operating within the vicinity of Lake Union Waterport. One floatplane was on a southerly heading approaching to land on the north end of the lake from Eastlake, position reported northeast of me. The second floatplane was transitioning west to east through the ship canal, position reported east of me. The third floatplane was on a northerly takeoff roll on Lake Union, position reported south-east of me.

At this point, I re-announced my position stating I was heading westbound to Lake Union, and was approaching the I-5 Bridge, which is raised 300 feet over the ship canal. Then as

I approached I-5, I continued scanning the skies, but I was unable to make a visual contact with any of the other 3 float planes.

While crossing I-5, I obtained visual contact with the second floatplane which was still on climb out after taking off from OWO. It was heading north and climbing over Gasworks Park. Suddenly, that aircraft turned toward my position and continued to climb in altitude. I know that this plane had to climb to clear the I-5 bridge and it was heading right toward me.

I again announced my position over the CTAF, stating I was westbound over I-5, the climbing seaplane announced its intentions to turn east towards University, which placed him in a collision course with me. He did not say that he had me in sight.

At that point, as pilot in command, I determined the safest course of action would be to turn out of the path of the climbing plane. I made a second visual scan but I could not get visual contact on the first seaplane (which had been westbound towards me through the ship canal) or the third seaplane (which was last reported as southbound coming from Green Lake). By making this slight southbound turn, later realized that I may have inadvertently and briefly entered the radius of the stadium TFR, which I believe was active for a Game. My altitude at the time was 1,000 and I was approximately 1.5 NM away from the stadium.

I believe that this brief and minor transit into an area where a TFR was operationally necessary for the safe operation of my flight under FAR 91.3. As I took these actions, I was maintaining separation from the one aircraft I had in sight while also accounting for the last know positions and headings of the other two aircraft which were not in sight. By making these maneuvers to avoid the oncoming traffic, I was able to complete my flight and the return flight to my home station without any incident.

I was not contacted by ATC regarding a possible TFR violation at any point during my flight operations. I have not been contacted since that date by the FAA.

The area surrounding OWO is notoriously congested and often aircraft transit through the ship canal like a bottleneck between the SEA Class B and the RNT and BFI Class D airspaces. Furthermore, when the Stadium TFRs are hot, they prohibit uncontrolled flight over the majority of Lake Union, thus forcing seaplanes to perform take-offs, landings, and transitions, in a small, congested area at the very north end of the lake.

I believe the best way to correct the situation would be to eliminate the stadium TFRs coverage in the vicinity of OWO so as to free up more airspace at Lake Union during stadium TFRs operations. Another less economically viable option would be to make the entire Lake Union area unavailable for operations during stadium TFRs to prevent congestion over a waterway. A third operation would be to commission a ATC tower for OWO making the area a Class D which would provide flight following and allow air traffic to legally pass through the TFR when it is hot.

## Synopsis

C180 floatplane pilot reported encroaching on a sports TFR during evasive action in response to an NMAC.

## Time / Day

Date : 201609

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : NCT.TRACON

State Reference : CA

## Aircraft

Reference : X

ATC / Advisory.TRACON : NCT

Make Model Name : Commercial Fixed Wing

Airspace.Class E : NCT

## Person

Reference : 1

Location Of Person.Facility : NCT.TRACON

Reporter Organization : Government

Function.Air Traffic Control : Approach

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 10

ASRS Report Number.Accession Number : 1390834

Human Factors : Confusion

Human Factors : Distraction

Human Factors : Situational Awareness

Human Factors : Time Pressure

Human Factors : Troubleshooting

Human Factors : Workload

Human Factors : Human-Machine Interface

## Events

Anomaly.Airspace Violation : All Types

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Procedural : FAR

Anomaly.Deviation - Procedural : Published Material / Policy

Anomaly.Deviation - Procedural : Clearance

Detector.Person : Air Traffic Control

When Detected : In-flight

Result.Air Traffic Control : Provided Assistance

## Assessments

Contributing Factors / Situations : Airspace Structure

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Airspace Structure

## Narrative: 1

I was working the SJC final this morning when a new TFR for [a] fire near went into effect. The TFR was so unnecessarily large it made it impossible to have aircraft arrive into SJC. The decision was made by my supervisor that until we see aircraft in the TFR we would run operations as normal. I cleared a dozen aircraft through the TFR and when the fire fighting aircraft arrived it was necessary to place the last few through the TFR. After our complaints were heard the TFR was redrawn to something more manageable. The entire process took too long.

Does anyone from air traffic actually look at the TFR dimensions to see what and where they are with potential impacts to safety? Why does it take so long to get something redrawn? Why do fire TFRs remain at night when there are no firefighting aircraft allowed to fly? I recommend a review of this event and that it get addressed by our Local Safety Committee. This is not the first time a TFR has been larger than was necessary with impacts to the operation. I also recommend someone from NCT be allowed to review and approve or deny a TFR. It's my understanding TFRs are generated outside of our building and we are told what and where they will be. Local input is very important and should be part of the decision making process.

## Synopsis

NCT TRACON Controller reported of problems with the size of a fire fighting TFR.

## Time / Day

Date : 201609

Local Time Of Day : 1201-1800

## Place

Locale Reference.Airport : LVK.Airport

State Reference : CA

Relative Position.Angle.Radial : 300

Relative Position.Distance.Nautical Miles : 3

Altitude.MSL.Single Value : 3500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility : Haze / Smoke

Weather Elements / Visibility.Visibility : 20

Light : Daylight

## Aircraft

Reference : X

Aircraft Operator : Personal

Make Model Name : PA-32 Cherokee Six/Lance/Saratoga/6X

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Descent

Route In Use : Direct

Airspace.Class E : NCT

## Person

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Experience.Flight Crew.Total : 1945

Experience.Flight Crew.Last 90 Days : 8

Experience.Flight Crew.Type : 990

ASRS Report Number.Accession Number : 1388723

Human Factors : Situational Awareness

Human Factors : Other / Unknown

## Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation - Procedural : FAR

Detector.Person : Flight Crew



When Detected : In-flight  
Result.Flight Crew : Exited Penetrated Airspace  
Result.Flight Crew : Took Evasive Action

## Assessments

Contributing Factors / Situations : Environment - Non Weather Related  
Contributing Factors / Situations : Human Factors  
Primary Problem : Human Factors

## Narrative: 1

I had flown from PAO to ZZZ to pick up some parts for work. I received a standard briefing via DUATS before departure, which showed clear weather and one TFR over Oakland which was well off my route. On the return flight, the weather was the same and I didn't obtain another briefing. Approaching Livermore (LVK), I noticed a plume of smoke from a wildfire in the hills near Livermore. Though neither my XM weather nor my ADS-B weather showed a TFR, I realized one may have just popped up and I turned to remain clear.

The combination of a recent briefing, the clear weather, and two independent sources of downlinked weather/TFR information led to a sense of complacency about TFRs. Corrective actions include getting flight following as well as always getting a briefing.

## Synopsis

PA32 pilot reported possibly entering a firefighting TFR near LVK. The TFR may have been created after his initial DUATS briefing and did not show up on XM weather or ADS-B.

## Time / Day

Date : 201607

Local Time Of Day : 1201-1800

## Place

Locale Reference.ATC Facility : JCF.TRACON

State Reference : CA

## Aircraft

Reference : X

ATC / Advisory.TRACON : JCF

Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Airspace.Class E : JCF

## Person

Reference : 1

Location Of Person.Facility : JCF.TRACON

Reporter Organization : Government

Function.Air Traffic Control : Approach

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 5

ASRS Report Number.Accession Number : 1373869

Human Factors : Communication Breakdown

Human Factors : Confusion

Human Factors : Distraction

Human Factors : Situational Awareness

Human Factors : Troubleshooting

Human Factors : Workload

Human Factors : Human-Machine Interface

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : ATC

## Events

Anomaly.Airspace Violation : All Types

Anomaly.ATC Issue : All Types

Anomaly.Deviation - Procedural : Published Material / Policy

Detector.Person : Air Traffic Control

## Assessments

Contributing Factors / Situations : Chart Or Publication

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Procedure

## Narrative: 1

There is a TFR in place today for a fire at or below 8500 feet, 5 NM radius at ZZZ (VOR)110/014. We were not showing this as the TFR location in our Status Information.

We had the previous TFR that had expired in our information. After having worked the sector for an hour, we kept getting reports from SoCal that the TFR is more in our sky than theirs, and our coordination on arriving aircraft was getting confusing because our maps were not showing the same information. I remembered our CIC had said earlier that they didn't want to read all the NOTAMs for the watch check list because there were too many. Eventually, I asked SoCal of the position of the TFR to make sure we have the correct display, and ours was incorrect. I asked our CIC to find out if our TFR was correct, and they told me to look it up (despite working traffic at the time). I looked up the NOTAM, and then corrected the drawing for our TFR and input the drawing on all the other scopes as needed, and updated our information area as for the new drawing.

I'm not sure if anyone had gone through the TFR before I updated the drawings.

I would have the CIC's get training on the desk and duties involved, and stress the need to make sure the NOTAMs are up to date or corrected.

Another alternative is to not have a CIC, and have Supervisors work the desk. Often times this happens when the controllers work the desk. I've seen other information get misrepresented or overlooked.

## Synopsis

Joint Control Facility (Edwards) TRACON Controller reported of a TFR that was not updated and the reporter did not know the exact position. Reporter eventually had to look up coordinates and then advise others.

## Time / Day

Date : 201607

Local Time Of Day : 1801-2400

## Place

Locale Reference.ATC Facility : GEG.TRACON

State Reference : WA

Altitude.MSL.Single Value : 6500

## Environment

Flight Conditions : VMC

Light : Daylight

## Aircraft

Reference : X

ATC / Advisory.TRACON : GEG

Aircraft Operator : Personal

Make Model Name : Small Aircraft

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : VFR

Mission : Personal

Flight Phase : Cruise

Route In Use : VFR Route

Airspace.Class C : GEG

## Person : 1

Reference : 1

Location Of Person.Facility : GEG.TRACON

Reporter Organization : Government

Function.Air Traffic Control : Approach

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 6.0

ASRS Report Number.Accession Number : 1371871

Human Factors : Situational Awareness

Human Factors : Communication Breakdown

Communication Breakdown.Party1 : ATC

Communication Breakdown.Party2 : Flight Crew

## Person : 2

Reference : 2

Location Of Person.Facility : GEG.TRACON

Reporter Organization : Government

Function.Air Traffic Control : Approach

Function.Air Traffic Control : Supervisor / CIC

Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 3.4

ASRS Report Number.Accession Number : 1371883

Human Factors : Situational Awareness

## Events

Anomaly.Airspace Violation : All Types  
Anomaly.ATC Issue : All Types  
Anomaly.Conflict : Airborne Conflict  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Anomaly.Deviation - Procedural : Clearance  
Detector.Person : Flight Crew  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Air Traffic Control : Provided Assistance  
Result.Air Traffic Control : Issued New Clearance  
Result.Air Traffic Control : Issued Advisory / Alert

## Assessments

Contributing Factors / Situations : Airspace Structure  
Contributing Factors / Situations : Chart Or Publication  
Contributing Factors / Situations : Human Factors  
Contributing Factors / Situations : Procedure  
Primary Problem : Chart Or Publication

## Narrative: 1

Aircraft X was VFR on his own navigation. South of GEG he told me he did not know the parachute area was active. This was confusing to me. There is currently a NOTAM for PJE 36 miles south of GEG near 33S. At the time he mentioned this that area was at his 11 o'clock and approximately 25 miles. I asked him if he could see parajumpers, and he said he could at about 6,500 feet MSL. I asked the pilot how far away the jumpers were, and got no response. I attempted numerous times to reestablish contact with the pilot, including main and standby transmitters, guard frequency, and also having another aircraft try to relay a message.

I had initiated an automated handoff to MWH approach, which was completed. I coordinated verbally to advise that Aircraft X was radar contact lost and also NORDDO. About 10 or 15 minutes after I told MWH approach that Aircraft X was NORDDO, they called back to say that he contacted them finally. By this time I had dismissed the report as being in the known PJE area.

I had no other reports of parachutes while working. When I gave the position to my relief (training team) I advised them about the report, but also told them that my assumption was that he saw jumpers in the NOTAM area. After my break I learned that multiple aircraft were reporting numerous parachutes in a similar area. They were powered parachute gliders. The Controller In charge had tracked down some information about a race of powered parachutes approximately 30 miles southeast of GEG. There were 120 of the powered parachutes, operating from between 12,000 feet MSL to the ground, which is the upper limit of our airspace. MWH was informed of the race, but we were not.

Upon learning this, I realized that there were some occasional primary returns south of GEG, but they would show up for typically a very short time and at the time did not appear to be connected. I believe I fell victim to some expectation bias in this situation. In having known parachute activity with a TFR area displayed on my map, it was easy to assume that this is what the pilot was describing to me. Also, if the pilot had been able to answer my questions at the time, this could have been discovered sooner, and we as a facility

may have been able to provide a safer environment to some of the aircraft receiving services.

I am certain if there had been a NOTAM issued, we would have been able to help aircraft receiving services to avoid the area somehow, through coordination with ZSE at a minimum. The Controller in Charge contacted the guy in charge of the race (getting information from MWH about it), and he told the Controller in Charge that he tried to file something with FSS, but they told him it was too big an area and they couldn't do it. I'm not sure if that is legitimate, but it seems like a horrible reason to me.

## Narrative: 2

Today my first two sessions of work were manning the Controller in Charge (CIC) position because we were training both on East Radar (ER) and MSO. The first session was slow. Both trainers were doing their jobs just fine and nothing out of the ordinary appeared to occur until the controllers on East Radar were relieved. The relieving controller reported a VFR aircraft saying something about Parajumpers and then the aircraft when NORDO and continued along its route of flight. The VFR was probably 20 miles from an area with known and NOTAMED parachute activity and we thought maybe he was either disoriented or just had a depth perception issue with the traffic. Since he failed to respond to further inquiries via radio we couldn't find any more information out. The pilot checked on with MWH approach control about 20 minutes later so we let it go.

The second session I was on the desk again and the ER controller report a parajumper in his vicinity which was much closer to GEG then the VFR aircraft earlier on. He then reported underflying a parasomething 5 miles later and I began to think that something was actually wrong. When I couldn't reach them I contacted ZSE Area Supervisor desk and asked if they had the contact information. They relayed to me that MWH TRACON actually had the Letter of Agreement with the jumpers school so I contacted MWH next.

They gave me an alternative phone number and mentioned an alternative that there was some sort of powered parachute thing happening and also gave me the contact information for that. [We were told of a] Powered parachute event, and relayed what we were encountering to him.

After a brief phone call we came to realize that the event was going directly south of Spokane between Sprague and Fishtrap east to west from the surface to about 12000 feet MSL, and that there were 120 powered chutes in the event. I was told that he had done much coordinating with other FAA related sources but somehow Spokane TRACON did not get the memo. I immediately informed the radar controller to assume all primaries were not false and that they could be powered Chutes and to keep traffic at or above 12000 feet until abeam Spokane airport to prevent any possible collision. I recontacted MWH TRACON and asked what kind of information they had. They faxed over a copy of the email they received. It depicted the area the powered chutes were using and it basically ran right up against the GEG Class C airspace and was directly off the departure end of the active runway. After things calmed down I turned everything over to the Supervisor who was training on our MSO sector while all this was going on.

It is lucky that I had a bad feeling and followed up, a couple people at work told me they would have just shrugged it off and went about their day. We had no idea this was happening, there wasn't a single Notam within 50 miles of Spokane mentioning thing. I almost shrugged this off as nothing myself. Only after the aircraft said he flew underneath a chute did I think something was really wrong.

Any mass event like this must coordinate directly with any TRACON within 40 miles along the flight path of their aircraft prior to the event by at least 7 days to inform them of the event.

## Synopsis

GEG TRACON Controller reported being unaware that an organization was conducting a powered parachute event in their airspace.

## Time / Day

Date : 201601

Local Time Of Day : 0601-1200

## Place

Locale Reference.Airport : FDK.Airport

State Reference : MD

Relative Position.Angle.Radial : 130

Relative Position.Distance.Nautical Miles : 7

Altitude.AGL.Single Value : 1500

## Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling.Single Value : 12000

## Aircraft : 1

Reference : X

ATC / Advisory.Tower : FDK

Aircraft Operator : Military

Make Model Name : Helicopter

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Ferry

Flight Phase : Cruise

Route In Use : None

Airspace.Special Use : DC SFRA

## Aircraft : 2

Reference : Y

ATC / Advisory.Tower : FDK

Aircraft Operator : Military

Make Model Name : Helicopter

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Ferry

Flight Phase : Cruise

Route In Use : None

Airspace.Special Use : DC SFRA

## Component

Aircraft Component : GPS & Other Satellite Navigation

Aircraft Reference : X

## Person : 1



Reference : 1  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Military  
Function.Flight Crew : Captain  
Function.Flight Crew : Pilot Flying  
Qualification.Flight Crew : Multiengine  
Qualification.Flight Crew : Air Transport Pilot (ATP)  
Qualification.Flight Crew : Flight Instructor  
Qualification.Flight Crew : Instrument  
Experience.Flight Crew.Total : 10000  
Experience.Flight Crew.Last 90 Days : 30  
Experience.Flight Crew.Type : 4500  
ASRS Report Number.Accession Number : 1322662  
Human Factors : Situational Awareness

### Person : 2

Reference : 2  
Location Of Person.Aircraft : Y  
Location In Aircraft : Flight Deck  
Reporter Organization : Military  
Function.Flight Crew : Pilot Flying  
Experience.Flight Crew.Total : 3500  
Experience.Flight Crew.Last 90 Days : 45  
Experience.Flight Crew.Type : 2900  
ASRS Report Number.Accession Number : 1323191  
Human Factors : Situational Awareness

### Person : 3

Reference : 3  
Location Of Person.Aircraft : X  
Location In Aircraft : Flight Deck  
Reporter Organization : Air Carrier  
Function.Flight Crew : First Officer  
Function.Flight Crew : Pilot Not Flying  
Qualification.Flight Crew : Commercial  
Qualification.Flight Crew : Instrument  
Qualification.Flight Crew : Multiengine  
Experience.Flight Crew.Total : 3800  
Experience.Flight Crew.Last 90 Days : 59  
Experience.Flight Crew.Type : 3300  
ASRS Report Number.Accession Number : 1324029  
Human Factors : Situational Awareness

### Events

Anomaly.Airspace Violation : All Types  
Anomaly.Deviation - Procedural : Published Material / Policy  
Detector.Person : Air Traffic Control  
When Detected : In-flight  
Result.Air Traffic Control : Issued Advisory / Alert

### Assessments

Contributing Factors / Situations : Aircraft  
Contributing Factors / Situations : Chart Or Publication  
Contributing Factors / Situations : Procedure  
Primary Problem : Aircraft

#### Narrative: 1

Enroute from EVY the route of flight was to circumnavigate the outside NW corner of the DC SFRA between the SFRA boundary and the FDK Class D then head south west. Both GPS's showed us approximately 2 miles outside the SFRA boundary. I was up on FDK tower frequency and just prior to contacting them to notify of our transition south of their airspace, the tower called and asked if the aircraft approximately 8 miles to their south east were up frequency. I responded and after letting them know who we were and where we were "Aircraft X is Southeast, north of the DC ADIZ and south of the Class D", the tower asked what our destination was and I informed him. The tower then instructed us to contact Potomac Approach upon landing. After contacting Potomac Approach, I was informed that we had penetrated the boundary of the SFRA by 1-2 miles.

We were flying at a low altitude to stay out of forecasted turbulence at higher altitudes and the poor radio reception with approach that we normally encounter in that area otherwise we would have been flight following at that time.

I have been through that area several times but this is the first time I have had an issue. We were slightly closer to the boundary but as stated above, both aircraft were showing the same thing, just outside the boundary. I understand that regardless of what the equipment is reporting, it is the pilot's responsibility to follow the rules. It is my intent to keep a minimum of 5 miles distance in the future. Possibly a larger thicker boundary marking on the VFR sectional and TAC's that is actually a couple miles further than the actual boundary would help future penetrations.

#### Narrative: 2

[Report narrative contained no additional information.]

#### Narrative: 3

[Report narrative contained no additional information.]

#### Synopsis

Flight of two helicopters with two GPS sources flew a course 2 miles outside the Washington DC SFRA, yet PCT TRACON claimed the aircraft was inside the SFRA by two miles.