

## NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

NOTICE: WFF-2016-01

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA): Establishment of Restricted Area Airspace (R-) 6604C/D/E at Wallops Flight Facility (WFF)

AGENCY: NASA

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: Pursuant to the NEPA of 1969, as amended (42 U.S. Code [U.S.C.] § 4321 et seq.), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] § 1500-1508), and NASA Procedures for Implementing NEPA (14 CFR Subpart 1216.3), NASA has made a FONSI with respect to its proposed establishment of Restricted Area Airspace R-6604C/D/E at WFF, Accomack County, Virginia.

ADDRESS: The Final Environmental Assessment (EA) that supports and serves as a basis for this FONSI may be reviewed at:

- Chincoteague Island Library, Chincoteague, Virginia
- Wallops Flight Facility Visitor's Center, Route 175 near Chincoteague, Virginia
- Eastern Shore Public Library, Accomac, Virginia

An electronic copy of the Final EA is available on the Internet at:  
[http://sites.wff.nasa.gov/code250/Establishment\\_R-6604CDE\\_FEA.html](http://sites.wff.nasa.gov/code250/Establishment_R-6604CDE_FEA.html).

A limited number of copies of the Final EA may be obtained by contacting the NASA representative at the address or telephone number indicated below.

FOR FURTHER INFORMATION, CONTACT: Ms. Shari Miller, NASA WFF, Mailstop: 250.W, Wallops Island, Virginia, Phone: (757) 824-2327, Email: [Shari.A.Miller@nasa.gov](mailto:Shari.A.Miller@nasa.gov).

## SUPPLEMENTAL INFORMATION:

NASA has reviewed the EA prepared for the establishment of Restricted Area Airspace R-6604C/D/E and has concluded that the EA represents an accurate and adequate analysis of the scope and level of associated impacts. NASA hereby incorporates the EA by reference into this FONSI.

The Federal Aviation Administration (FAA) Air Traffic Organization served as a Cooperating Agency in preparing the EA, as it possesses both specialized expertise and regulatory authority regarding the proposal.

### Alternatives Considered

The EA evaluates in detail two alternatives: the Proposed Action and the No Action Alternative. Under the Proposed Action, the FAA would grant NASA's request for additional Restricted Area Airspace such that NASA can conduct aircraft experimental test profiles with a much lower risk of encountering non-participating aircraft. No changes are proposed to the types of aircraft or types and number of operations conducted within the airspace adjacent to WFF. The new Restricted Area Airspace would supplement WFF's existing R-6604A/B airspace.

With the purpose of safely segregating civil air traffic from flight testing of unproven, modified, and experimental aerial systems, NASA has applied to FAA for the expansion of R-6604 by adding new airspaces designated R-6604C/D/E. R-6604C would incorporate the airspace from the ground surface up to, and including, 1,065 m (3,500 ft) above ground level (AGL); would be linked to R-6604A/B; and would extend through and beyond WFF's Class D airspace. R-6604D would extend from 30 m (100 ft) AGL to 1,065 m (3,500 ft) AGL; whereas, R-6604E would span from 213 m (700 ft) AGL to 1,065 m (3,500 ft) AGL. To ensure the least impact on the general aviation community, NASA would implement the following as integral parts of the Proposed Action:

- Similar to existing R-6604A/B, each section of airspace could be activated separately, as needed.
- Activation of R-6604C/D/E would be accomplished by issuing a Notice to Airmen (NOTAM) at least 12 hours prior to the activation.
- NASA would staff the WFF Air Traffic Control (ATC) tower whenever R-6604C/D/E are active.
- Status messages would be broadcast real-time through the airfield's Automatic Terminal Information Service (ATIS) system.
- Washington Air Route Traffic Control Center (ARTCC) would be the sole controlling agency for NASA utilized airspace.
- WFF proposes to enter into Letters of Agreement with local aviators and airfield owners to facilitate procedures (e.g. checklists, WFF ATC tower contact information, etc.) for operating in the airspace, whether active or inactive.
- NASA proposes to allow small unmanned aerial systems (UAS) (defined as those less than 25 kilograms [55 pounds]) to conduct flight operations in accordance with FAA Rule Part 107 within the proposed Restricted Area Airspace without a Letter of Agreement.

Under the No Action Alternative, FAA would not grant the airspace change that NASA has

requested. In either instance, aircraft operations at WFF would continue at the same tempo within the Class D airspace, R-6604A/B, and offshore Warning Areas controlled by the Navy's offshore Fleet Area Control and Surveillance Facility, Virginia Capes Operating Area (FACSFAC VACAPES).

### Environmental Analysis

The EA examines the potential direct, indirect, and cumulative effects of the alternatives on physical, biological, and social resources. Resources evaluated in detail include Department of Transportation (DOT) Act of 1966 Section 4(f) (49 U.S.C. § 303) properties, airspace management, health and safety, general/civil aviation, and noise. In summary, the EA concludes that potential effects to these resources would be negligible to minor.

Furthermore, in accordance with the CEQ Regulations, NASA must consider both the context and intensity of potential environmental effects when determining significance under NEPA (40 CFR § 1508.27). The following presents NASA's assessment of both.

Context – This means that the significance of an action must be analyzed in several contexts such as society as a whole, the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action.

The airfield has been operated by the government for more than 70 years. Moreover, the types of aircraft flown and the operational tempo of WFF test flights would remain unchanged with the Proposed Action. The Proposed Action is focused on simply extending the Restricted Area Airspace to protect existing operations and non-participating aircraft.

Intensity – This refers to the severity of impact. The following ten factors should be considered in evaluating intensity:

*(1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.*

As identified in the Final EA, the Proposed Action would result in beneficial effects on the safety of NASA test pilots and aircrew and the general aviation community. Additionally, the Proposed Action would further protect those individuals that reside on the land directly underneath the proposed Restricted Area Airspace by mitigating the risks of a mid-air collision. The Final EA also identifies unavoidable adverse effects, potentially by inconveniencing the general aviation community. However, these adverse effects would be infrequent with a short-term duration.

*(2) The degree to which the proposed action affects public health or safety.*

The Proposed Action would beneficially affect public health or safety. As discussed in the Final EA, additional Restricted Area Airspace would safely segregate participating and non-

participating aircraft; thereby reducing the risk of possible in-flight mishaps and accidents.

*(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

The geographic area over which Proposed Action would occur (i.e., the area underneath the proposed Restricted Area Airspace) contains prime farmlands. Wallops Island and the surrounding area do contain two National Wildlife Refuges (NWR), a National Seashore, and a large network of both tidal and non-tidal wetlands. As discussed in the Final EA, aircraft test operations in the new Restricted Area Airspace would not affect nearby Chincoteague NWR, Wallops Island NWR, the Assateague Island National Seashore, wetlands, or any other ground resources.

*(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

The environmental effects of the Proposed Action are unlikely to be scientifically controversial. In preparing the Final EA, NASA relied upon the best available information in scientific journals, government reports, and its own monitoring data. While conducting its research, NASA did not identify conflicting scientific positions regarding a potential effect induced by its Proposed Action.

*(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

The environmental effects of aircraft operations are well studied and understood. Furthermore, the types of aircraft flown and the operational tempo of WFF test flights would remain unchanged from current operations.

*(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

The Proposed Action would not establish a precedent for future actions, nor would it represent a decision in principle about a future consideration. Rather, the action represents simply extending the Restricted Area Airspace to protect existing operations and non-participating aircraft.

*(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

Supported by the cumulative effects analyses performed for actions on WFF that were incorporated by reference and summarized in the Final EA, the additive effects of the Proposed Action when considered with other past, present, and reasonably foreseeable future actions, would not result in significant cumulative effects on any resource considered.



(8) *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

In accordance with the Section 106 of the National Historic Preservation Act (54 U.S.C. § 300101 et seq.), NASA consulted with the Virginia State Historic Preservation Office which concurred that the Proposed Action would have no potential to affect historic properties.

(9) *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

In accordance with Section 7 of the Endangered Species Act ([ESA] 16 U.S.C. § 1531 et seq.), NASA consulted with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). NASA received concurrence from NMFS that the agency did not have any comments or concerns related to ESA-listed species under its jurisdiction. NASA included the potential for expanding its Restricted Area Airspace in its August 18, 2015, Biological Evaluation. The USFWS concluded in its June 2016 Biological Opinion and accompanying Incidental Take Statement that collision with aircraft may cause the injury or death of a small number of piping plover (*Charadrius melodus*) or rufa red knots (*Calidris canutus rufa*) but would not be likely to result in jeopardy to either of these species, and that WFF aircraft operations and the proposed expansion of R-6604 would not be likely to adversely affect loggerhead sea turtles (*Caretta caretta*).

(10) *Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.*

NASA and/or FAA have either obtained or would obtain all necessary environmental approvals prior to conducting the Proposed Action.

#### Public Involvement

NASA notified the public of the availability of the Draft EA through a combination of electronic correspondence and published notices in local newspapers. The Draft EA was also available for public review on the internet, at local libraries, and at the WFF Visitor Center.

A 30-day public comment period was scheduled from July 1, 2016, until August 1, 2016. In response to requests from elected officials and members of the public, NASA extended the public comment period until September 1, 2016. NASA held two open-house public information meetings, one on August 4, 2016, and the other on August 11, 2016, at the WFF Visitor Center. In addition to the public open house sessions, at the request of a State elected official, on August 3, 2016, NASA met with representatives of the Eastern Shore Pilots Association, the Eastern Shore of Virginia Chamber of Commerce, and Accomack County Farm Bureau to discuss the airspace proposal and to hear members' concerns. Further, upon invitation of the Accomack

County Board of Supervisors, NASA presented the proposal and listened to public comment, during the August 17, 2016, Board of Supervisors Regular Meeting.

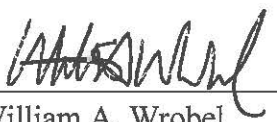
During the public comment period, NASA received comments from one Federal agency, the U.S. Environmental Protection Agency (USEPA). The majority of USEPA's comments requested NASA to: 1) clarify the purpose and need for the Proposed Action as compared to current actions, 2) provide additional details about the Proposed Action, and 3) include additional detail regarding the extent of the alternatives' potential environmental effects.

In parallel with its 60-day review of the Proposed Action under Section 307 of the Coastal Zone Management Act (16 U.S.C. § 1451 et seq.), the Virginia Department of Environmental Quality submitted comments on behalf of six state agencies. These comments provided Virginia's Federal Consistency concurrence and reiterated requirements of state regulatory programs; they did not raise specific concerns regarding the alternatives or environmental impact analysis presented in the Draft EA.

In preparing the Final EA, NASA considered all comments received. Comments received on the Draft EA and NASA's responses to them are included in the Final EA as Appendix C. Based upon public involvement, NASA amended the Proposed Action to include the processes and procedures, mentioned above, that would ensure the least impact to the general aviation community while also meeting NASA flight testing objectives.

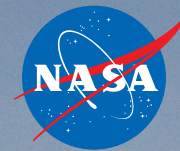
#### Conclusion

On the basis of the Final EA, NASA has determined that the environmental impacts associated with its request to FAA to grant additional Restricted Area Airspace at WFF will not individually or cumulatively have a significant impact on the quality of the human environment within the meaning of Section 102(2)(c) of NEPA. Therefore, an Environmental Impact Statement is not required.

  
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William A. Wrobel  
Director  
Wallops Flight Facility

09/19/16  
Date





# **FINAL**

## **ENVIRONMENTAL ASSESSMENT ESTABLISHMENT OF RESTRICTED AREA AIRSPACE 6604C/D/E AT WALLOPS FLIGHT FACILITY**



September 2016

Goddard Space Flight Center  
Wallops Flight Facility  
Wallops Island, Virginia 23337



Cover image: NASA Wallops Flight Facility P-3 aircraft – Photo Credit: James Mason-Foley, February 2009

Inset image: NASA Wallop Flight Facility Main Base airfield – Image Credit: Christopher Perry, September 2012



National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
**Wallops Flight Facility**  
**Wallops Island, VA 23337**



Reply to Attn of: 250.W

September 2016

Dear Reader:

This is the Final Environmental Assessment (FEA) for NASA's proposed establishment of Restricted Area Airspace R-6604C/D/E at Wallops Flight Facility (WFF), Wallops Island, Virginia.

Prepared in accordance with the National Environmental Policy Act (NEPA), the FEA evaluates the environmental consequences of NASA's request to the Federal Aviation Administration (FAA) for additional Restricted Area Airspace such that NASA can conduct experimental test profiles with a much lower risk of encountering non-participating aircraft. No changes are proposed to the types of aircraft or types and number of operations conducted within the airspace adjacent to WFF. The new Restricted Area Airspace would supplement WFF's existing R-6604A/B airspace. In addition to the Proposed Action, the FEA evaluates the No Action Alternative.

NASA considered all comments received on the Draft EA (DEA) in preparing the FEA. Comments received on the DEA and NASA's responses to those comments are included as Appendix C.

An electronic version of the FEA is available on the project website at: [http://sites.wff.nasa.gov/code250/Establishment\\_R-6604CDE\\_FEA.html](http://sites.wff.nasa.gov/code250/Establishment_R-6604CDE_FEA.html).

The FEA is also available for review at the Eastern Shore Public Library, Accomac, Virginia; the Chincoteague Island Library, Chincoteague Island, Virginia; and the NASA WFF Visitor's Center, Wallops Island, Virginia. A limited number of hard copies of the FEA are available on a first request basis.

Please direct all requests for copies and questions regarding the FEA to Ms. Shari Miller of the WFF Environmental Office. She can be reached at one of the following:

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Wallops Island, VA 23337

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Phone: (757) 824-2327  
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*Thank you for your participation in this process!*

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**FINAL ENVIRONMENTAL ASSESSMENT  
ESTABLISHMENT OF RESTRICTED AREA AIRSPACE R-6604C/D/E  
AT WALLOPS FLIGHT FACILITY**

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
GODDARD SPACE FLIGHT CENTER  
WALLOPS FLIGHT FACILITY  
WALLOPS ISLAND, VIRGINIA 23337**

Lead Agency: National Aeronautics and Space Administration

Cooperating Agency: Federal Aviation Administration  
Air Traffic Organization

Proposed Action: Establishment of Restricted Area Airspace R-6604C/D/E  
at Wallops Flight Facility

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Date: September 2016

**ABSTRACT**

This Environmental Assessment (EA) addresses the proposed establishment of Restricted Area Airspace (R-) 6604 at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF), located in Accomack County, Virginia. Under the Proposed Action, NASA would request the Federal Aviation Administration grant additional Restricted Area Airspace such that NASA can conduct experimental test profiles with a much lower risk of encountering non-participating aircraft. No changes are proposed to the types of aircraft or types and number of operations conducted within the airspace adjacent to WFF. The new Restricted Area Airspace would supplement WFF's existing R-6604A/B airspace.

This EA analyzes the potential direct, indirect, and cumulative environmental effects of two alternatives: the Proposed Action and the No Action Alternative.

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## **Acronyms**

<b>Acronym</b>	<b>Meaning</b>
AAOC	Administrative Agreement on Consent
AGL	Above Ground Level
ANSI	American National Standards Institute
AOC	Areas of Concern
ARTCC	Air Route Traffic Control Center
ASO	Aviation Safety Office
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Office
BASH	Bird Animal Strike Hazard
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
CAA	Clean Air Act
CEA	cumulative effect analysis
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CNWR	Chincoteague National Wildlife Refuge
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibel
DEQ	Department of Environmental Quality
DNL	Day Night Average Sound Level
DOD	Department of Defense
DOT	Department of Transportation
EA	Environmental Assessment
ELV	Expendable Launch Vehicle
EMI	Electromagnetic Interference
EPA	Environmental Protection Agency
ERD	Environmental Resource Document

<b>Acronym</b>	<b>Meaning</b>
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FACSFAC	Fleet Area Control and Surveillance Facility
FCLP	Fleet Carrier Landing Program
FICUN	Federal Interagency Committee on Urban Noise
FR	Federal Register
ft	feet
GPR	Goddard Procedural Requirement
GPS	Global Positioning System
IEEE	Institute of Electrical and Electronics Engineers
IFR	Instrumented Flight Rules
JLUS	Joint Land Use Study
KIAS	Knots-Indicated Air Speed
km	kilometer
kPa	kilopascal
L <sub>Amax</sub>	Maximum A-weighted Sound Level
L <sub>max</sub>	Maximum Unweighted Sound Level
m	meter
MBTA	Migratory Bird Treaty Act
MEA	Minimum Enroute Altitude
mi	mile
mph	miles per hour
MSL	Mean Sea Level
MTR	Military Training Route
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
nm	nautical mile
NMFS	National Marine Fisheries Service
NOTAM	Notice to Airmen
NOTMAR	Notice to Mariners
NPR	NASA Procedural Requirements
NWI	National Wetland Inventory

<b>Acronym</b>	<b>Meaning</b>
NWR	National Wildlife Refuge
OSHA	Occupational Safety and Health Administration
PDARS	Performance Data Analysis and Reporting System
PSD	Prevention of Significant Deterioration
psf	pounds per square foot
R-	Restricted Area Airspace
RF	Radio Frequency
SEL	Sound Exposure Level
SHPO	State Historic Preservation Office
SR	Slow Route
SUA	Special Use Airspace
TRACON	Terminal Radar Approach Control
UAS	Unmanned Aircraft System
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USN	U.S. Navy
V-	Victor Airway
VACAPES	Virginia Capes Operating Area
VDCR	Virginia Department of Conservation and Recreation
VFR	Visual Flight Rule
VOR/DME	Very High Frequency [VHF] Omnidirectional Range and Distance Measuring Equipment
VPDES	Virginia Pollutant Discharge Elimination System
VR	Visual Route
W-	Warning Area
WFF	Wallops Flight Facility
WRP	Wallops Research Park

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## **1 Introduction and Purpose and Need for Action**

### **1.1 Regulatory Compliance**

The National Aeronautics and Space Administration (NASA) has prepared this Environmental Assessment (EA) to evaluate the potential environmental impacts of the establishment of additional Restricted Area Airspace in the vicinity of Wallops Flight Facility (WFF), Accomack County, Virginia. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA), as amended (Title 42 of the United States Code [U.S.C.] 4321–4347), the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508), NASA’s regulations for implementing NEPA (14 CFR Subpart 1216.3), and the *NASA NEPA Management Requirements* (NASA Procedural Requirement [NPR] 8580.1A).

### **1.2 Cooperating Agency**

NASA, as the WFF property owner that manages the Wallops airfield and the using agency that manages operations conducted from the Wallops airfield, is the Lead Agency in preparing this EA. The U.S. Department of Transportation’s (DOT) Federal Aviation Administration (FAA) Air Traffic Organization (ATO) has served as a Cooperating Agency because it possesses both regulatory authority and specialized expertise regarding the Proposed Action.

The FAA regulates U.S. airspace in accordance with the authorities granted to it under 49 U.S.C. Subtitle VII, Part A, Subpart I, Chapter 401, § 40103. All entities, including agencies of the U.S. government such as NASA, must submit a request to FAA for it to grant changes to the nation’s airspace. Furthermore, as a Federal agency, FAA has its own agency-specific NEPA obligations (outlined in FAA Order 1050.1F) with which it must comply prior to approving an airspace action.

Chapter 32 of FAA Order JO 7400.2K establishes the requirement for cooperation between FAA and non-Department of Defense Federal agencies requesting changes to Special Use Airspace (SUA). Per the referenced order, the Federal requesting agency (in this case, NASA) assumes the role of Lead Agency with FAA serving as a Cooperating Agency. As a Cooperating Agency, FAA will independently review the environmental documents prepared by NASA and assess whether they meet the agency’s standards for adequacy under NEPA. If FAA determines that this EA meets its standards, it will either adopt the document in whole or in part to fulfill its NEPA obligations for the proposed airspace action.

### **1.3 Purpose and Need for the Proposed Action**

#### **1.3.1 Purpose**

The National Aeronautics and Space Act (Pub. L. No. 111-314, 124 Stat. 3328, December 18th, 2010) provides U.S. Congressional authority to conduct operations that contribute materially to, “the expansion of human knowledge of the Earth and of phenomena in the atmosphere and space.”

It also provides for “the improvement of the usefulness, performance, speed, safety, and efficiency of aeronautical and space vehicles.” In keeping with these congressionally mandated goals, WFF conducts a variety of elevated-risk flight test activities in the National Airspace System (NAS) immediately surrounding WFF. Additionally, inter-governmental agreements, such as those with Naval Air Station Patuxent River and Naval Air Systems Command, leverage NASA’s capability at WFF for test and evaluation of military systems in support of our nation’s defense and security.

The purpose of NASA’s request for additional Restricted Area Airspace is to protect non-participating aircraft from the hazards associated with WFF’s high-risk experimental test flight operations. NASA aircraft may be highly modified and often used in nonstandard ways. These operations require a carefully managed flight test program to assess the aircraft’s airworthiness prior to release for operational science missions around the world. Exclusive use airspace is a prerequisite to mitigate many of the risks associated with these tests. By expanding the existing airspace in a segmented fashion, NASA would facilitate safe separation between participating and non-participating aircraft in a minimally impactful approach to current civil air traffic. Additionally, the expanded airspace would further protect those individuals that reside on the land directly underneath the proposed Restricted Area Airspace by mitigating the risks of a mid-air collision.

### **1.3.2 Need**

WFF currently provides NASA, tenants, and commercial customers with pads for rocket launches and runways for aircraft operations. Rocket launches are supported by the existing range and are not included in the scope of this EA. For years, NASA has assumed greater risk during its flight test operations since the majority of high-risk aircraft test profiles conducted at WFF are only partially contained within the established Restricted Area Airspace (commonly denoted as R- followed by an assigned number, e.g., R-6604). These activities present a substantial hazard to civil air traffic in the vicinity of WFF. Since 2008, NASA research pilots and FAA have been engaged in a long, iterative process designing the proposed expanded restricted area airspace with pilot interests in mind, to ensure minimal impacts to the general aviation community. The types of aircraft flown and the operational tempo of WFF test flights would remain unchanged with the Proposed Action. The scope of this EA is focused on simply extending the Restricted Area Airspace to protect existing operations and non-participating aircraft.

Aircraft owned and operated by NASA at WFF include heavily modified variants of the following (not an all-inclusive list): the P-3 Orion, T-38 Talon, WB-57 Canberra, ER(U)-2 Dragon Lady, C-23 Sherpa, T-34C Turbo Mentor, BE-20 King Air, UH-1 Huey, RQ-4 Global Hawk, and several smaller unmanned systems such as the RQ-2 Pioneer and Viking 400. Additionally, multiple Department of Defense (DOD) aircraft such as the E-2C Hawkeye, E-2D Advanced Hawkeye, C-2A Greyhound, P-8 Poseidon, X-47B, F-35 Joint Strike Force, KC-130 or NC-130H Hercules, F/A-18 Hornet, as well as commercial aircraft, utilize WFF to either conduct experimental test profiles or pilot training, or as an emergency divert airfield. Expanding the existing airspace is

needed to safely segregate civilian air traffic from the unusual hazards associated with flight testing of unproven and experimental aerial systems, including unmanned and launched vehicle systems, as well as pilot training.

#### ***1.3.2.1 Limited Maneuverability***

Test aircraft are often heavily modified to meet NASA's congressionally mandated goals. Prior to field deploying the modified aircraft, they must be tested and certified for airworthiness. Flight test requirements associated with these modifications can restrict the pilot's ability to maneuver the aircraft. An unplanned, abrupt maneuver (possibly caused by intruding non-participating air traffic) violates the "build-up" safety principal of flight test. Such an event could exceed a design limit load, place the aircraft in untested/unproven energy state (e.g., structural stress), and endanger both the test aircrew/aircraft as well as non-participating (e.g., civil) air traffic. The limited maneuverability of modified aircraft during flight tests, presents an unusual hazard to non-participating aircraft, and inherently increases the risk of a midair collision when tests are conducted in co-use airspace.

Pitot-static system testing presents another unusual risk to non-participating aircraft. Pitot-static systems provide static and dynamic pressure to aircraft avionics including the altimeter, airspeed, and vertical speed indicator. NASA frequently modifies pitot-static system infrastructure in support of airborne science objectives. These modifications require a calibration of the pitot static and temperature systems, usually on the first flight of a test program (performance data and most stability and control data are worthless if pitot static and temperature errors are not corrected). Airworthiness certification of a modified pitot-static system may require a series of stabilized low-altitude passes by an ATC control tower (tower fly-by method). At times, these passes are executed at speeds in excess of the 250 Knots-Indicated Air Speed (KIAS) (288 miles per hour [mph]) restriction below 3,050 meters (m) (10,000 feet [ft]) within the NAS. Non-participating aircraft may not be able to "see-and-avoid" fast enough to prevent a mid-air collision. Additionally, participating aircraft, by the nature of such testing, are placed in sub-optimum conditions to see and react to air traffic intrusions. As a risk mitigation measure, test airspace must be exclusive use and non-participating aircraft must remain clear of the area.

#### ***1.3.2.2 Operation of Potentially Hazardous Systems***

NASA WFF conducts a variety of in-flight system tests that present unusual hazards and require clear airspace. The instrumentation, sensors, and equipment installed on modified aircraft must undergo formal airworthiness flight testing. Some of the systems NASA tests are emitters that have the potential to induce harmful electromagnetic interference (EMI) effects with non-participating aircraft. Since unusual electromagnetic emissions from aircraft being tested could pose a threat to flight critical equipment on non-participating aircraft in the designated test area, flight clearance limitations of both NASA and DOD aircraft often require clear or sterilized airspace. Additionally, NASA performs laser firings and calibrations from modified aircraft that

have the potential to cause severe or permanent eye damage if a non-participating aircraft accidentally intrudes within the safe hazard distance of such tests.

### **1.3.2.3 Unconventional Testing**

Finally, similar to electromagnetic compatibility testing, NASA conducts a variety of nontraditional and unconventional tests at WFF that present additional unusual hazards to non-participating aircraft. Such tests include instrumentation separation testing, the launch of tethered aerostats at significant altitudes for long durations, captive carry tests of external sensors or instruments, and horizontally - launched expendable launch vehicles including emergency and nominal return-to-base profiles for unmanned (and future potential for manned) space flights. The proposed expansion of NASA WFF's Restricted Area Airspace, R-6604A/B, is a risk mitigation measure to contain these hazards.

NASA operates public aircraft in accordance with 49 U.S.C. §40102 (a)(41). Airworthiness requirements for NASA's public aircraft are described in Chapter 2 of NPR 7900.3C. Many of the airworthiness certification tests that NASA performs require empty or sterile airspace that is free of non-participating aircraft. During flight test activities, if another aircraft enters the test airspace flight test maneuvers are terminated and NASA considers the incident an air traffic close call<sup>[1]</sup>. Although flight test maneuvers have been performed within the NAS in the past, the increasing frequency of air traffic close calls with civil air traffic presents an unacceptable hazard to all parties involved, including those that reside underneath the test areas.

### **1.3.3 Cooperating Agency Purpose and Need**

The purpose of FAA's Proposed Action is to respond to NASA's request for the designation of additional Restricted Area Airspace in the vicinity of WFF.

The need for FAA's Proposed Action results from the agency's statutory direction to ensure both the safety of aircraft and the efficient use of airspace. As such, when the agency deems it to be in the public interest, FAA may modify airspace assignments, such as that proposed herein. FAA has initiated this process with their notices in the Federal Register regarding the proposed expansion of Restricted Area Airspace 6604 (see **Section 2.3.2** below for details).

## **1.4 Related Environmental Documentation**

Existing NEPA and environmental resource documents were used as the basis for presenting the current operations and existing conditions, as described in this EA. The following NEPA

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<sup>[1]</sup>During flight test operations at WFF, NASA defines an air traffic "close call" as any time a non-participating aircraft penetrates protected airspace, or whenever a pilot or flight crew member believes a collision hazard existed between two or more aircraft. In contrast, FAA defines a reportable "near midair collision" as "An incident associated with the operation of an aircraft in which the possibility of collision occurs as a result of proximity of less than 500 feet to another aircraft" (FAA Order 8020.11C). NASA WFF air traffic close calls during flight tests are not reportable events to the FAA.

documents were prepared for actions, including aircraft operations, at NASA WFF and are incorporated by reference into this EA:

- 2005 NASA WFF Site-Wide EA/Finding of No Significant Impact (NASA, 2005; accessible at <http://sites.wff.nasa.gov/code250/documents.html#cat5>). (Preparers have carefully reviewed this document as it relates to the Proposed Action and have determined that it is still accurate.)
- 2008 EA/Finding of No Significant Impact for the Wallops Research Park (NASA, 2008; accessible at [http://sites.wff.nasa.gov/code250/docs/WRP\\_FEA.pdf](http://sites.wff.nasa.gov/code250/docs/WRP_FEA.pdf) and [http://sites.wff.nasa.gov/code250/docs/WRP\\_FONSI.pdf](http://sites.wff.nasa.gov/code250/docs/WRP_FONSI.pdf)).
- 2013 EA/Finding of No Significant Impact for E-2/C-2 Field Carrier Landing Practice Operations (FCLP) at Emporia-Greenville Regional Airport, Greenville County, Virginia, and NASA WFF (USN, 2013; accessible at [http://sites.wff.nasa.gov/code250/FCLP\\_EA.html](http://sites.wff.nasa.gov/code250/FCLP_EA.html)).
- 2016 WFF Environmental Resources Document (ERD) (NASA, 2016; accessible at [http://sites.wff.nasa.gov/code250/docs/2016\\_WFF\\_REDACTED\\_ERD.pdf](http://sites.wff.nasa.gov/code250/docs/2016_WFF_REDACTED_ERD.pdf)).

## **1.5 Public Notification and Outreach**

NASA released the Draft EA for public review and comment on July 1, 2016. The Draft EA public comment began with an advertisement published in the *Salisbury Daily Times* on July 6, 2016; the *Chincoteague Beacon* on July 7, 2016; and the *Eastern Shore News* on July 9, 2016, indicating the availability and locations where the Draft EA could be reviewed. Additionally, the Draft EA was made available on the NASA WFF Environmental Office web site at: [http://sites.wff.nasa.gov/code250/Establishment\\_R-6604CDE\\_DEA.html](http://sites.wff.nasa.gov/code250/Establishment_R-6604CDE_DEA.html).

Public Notice letters and electronic communications were also sent directly to federal and state agencies (Appendix A, Agency Consultation). One hard copy of the Draft EA were placed in the following public locations for review:

- Chincoteague Island Library  
4077 Main Street  
Chincoteague Island, VA 23336
- Eastern Shore Public Library  
23610 Front Street  
P.O. Box 360  
Accomack, VA 23301
- WFF Visitor Center  
Building J-020  
Chincoteague Road  
Wallops Island, VA 23337

A 30-day public comment period was scheduled from July 1, 2016, until August 1, 2016. In response to requests from elected officials and members of the public, NASA extended the public comment period until September 1, 2016. NASA issued a press release on August 1, 2016, announcing this extension. NASA held two open-house public information meetings, one on August 4, 2016, and the other on August 11, 2016, each from 5:00 p.m. to 7:00 p.m. at the WFF Visitor Center. Comments were collected during the meetings, via e-mail, and through regular mail. Copies of posters and handouts provided during the public meetings can be found in Appendix B, Public Meeting Materials. In addition to the public open house sessions, at the request of a State elected official, on August 3, 2016, NASA met with representatives of the Eastern Shore Pilots Association, the Eastern Shore of Virginia Chamber of Commerce, and Accomack County Farm Bureau to discuss the airspace proposal and to hear members' concerns. Further, upon invitation of the Accomack County Board of Supervisors, NASA presented the proposal and listened to public comment, during the August 17, 2016, Board of Supervisors Regular Meeting.

NASA received comments both in support of and in opposition to the Proposed Action. State and Federal agency comments received in response to the Draft EA can be found in Appendix A, Agency Consultation. NASA's specific responses to the summarized comments can be found in Appendix C, Public Comment Summary and have been incorporated throughout this Final EA. Primary public concern focused on the proposal is summarized in seven broad categories:

- Need for Restricted Area Airspace,
- WFF air traffic "close calls",
- Rationale for airspace shape,
- Environmental resources not considered in the Draft EA,
- Health and safety,
- General aviation, and
- General concerns.

## **1.6 NEPA and Determination of Significance**

Under NEPA, a federal agency's proposed actions can either be "categorically excluded" from further analysis or evaluated in an EA or an Environmental Impact Statement (EIS). An EA is an analysis of the potential environmental impacts of a proposed action. Action proponents must prepare an EA when they do not know beforehand whether or not the proposed action will significantly affect the human environment or be controversial regarding environmental effects. An EA results in either a Finding of No Significant Impact (FONSI) or, if a significant impact is identified in the EA, a decision to prepare an EIS. In determining significance, an impact's context and intensity, as described in 40 CFR Section 1508.27, must be considered for each resource area. Additional information regarding the factors a Federal agency must consider when determining significance under NEPA is provided in Chapter 3 of this EA.



## **2 Proposed Action and Alternatives**

### **2.1 Introduction**

This Chapter provides a discussion of the alternatives under consideration for expansion of Restricted Area Airspace at WFF. The No Action Alternative and the Proposed Action are evaluated in this EA.

#### **2.1.1 Aspects Common to Proposed Action and No Action Alternative**

The Proposed Action and No Action Alternative share many of the same operational components. As such, they are presented once in this Section instead of repeating the discussion under each Alternative.

##### **2.1.1.1 Airfield Operations**

NASA operates three runways at the WFF Main Base. Runway 10-28, which is the primary use runway; Runway 04-22, which is used for friction testing and touch-and-go tests; and Runway 17-35, which is an infrequently used crosswind runway. The airfield is used by NASA, NASA's partners and customers, and the DOD to conduct real time tests in support of aeronautical research activities and pilot proficiency training. WFF's airport infrastructure provides communications, telemetry, radar tracking, and flight path guidance, as well as refueling and maintenance facilities for various types of aircraft. Typical support components of the airfield include hangars, fueling systems, security, tracking systems, and an operations control tower. The airfield is also used as an emergency divert field for aircraft (commercial, private, and military) experiencing difficulties in flight.

The WFF aircraft fleet is operated, maintained, and managed by qualified flight crews and personnel with the goal of providing efficient and safe airborne operations. The maintenance and operation of the aircraft are the responsibility of the Aircraft Office, Code 830. WFF piloted aircraft operations can include employee transportation, payload delivery, rocket launching platforms, range surveillance, and inflight scientific experiments. Science mission aircraft are modified and upgraded, as needed, for mission requirements. Many of these same activities are performed by NASA customers. NASA-owned aircraft operating at WFF include the following (not an all-inclusive list): 4-engine turboprop, heavy lift P-3 Orion and C-130 Hercules aircraft; 2-engine turboprop 30-passenger C-23 Sherpa aircraft; the high-altitude ER(U)-2 Dragon Lady; and Unmanned Aircraft System (UAS) such as the RQ-4 Global Hawk, the RQ-2 Pioneer, and the Viking 400 which support science missions; single turboshaft engine, two-bladed main rotor and tail rotor, UH-1 Huey helicopter to support science missions and range surveillance; a single engine turboprop T-34 Turbo Mentor aircraft for UAS chase and pilot proficiency training; and a 2-engine turboprop, 9-passenger Beechcraft-200 KingAir aircraft to support range surveillance and employee transportation on agency missions.

Many of the airfield operations (i.e., flights) conducted at WFF include military pilot proficiency training that consists primarily of touch-and-go exercises in which the aircraft wheels touch down on the airstrip but the aircraft does not come to a complete stop. The Air Force, Air National Guard, Army, U.S. Coast Guard (USCG), and the U.S. Navy all conduct pilot proficiency training at WFF runways. Aircraft involved in touch-and-go and other flight exercises at WFF may include, but are not limited to, E2/C2 turbo props, A-10, C-12, C-40, F-15, F-16, F-18, F-22, and F-35.

An airfield operation represents the single movement or individual portion of a flight in the WFF airfield airspace environment such as one takeoff, one landing, or one transit of the airport traffic area. The baseline airfield operation level for WFF of 12,843 was established in 2004 using annual airfield operations data for that year with an envelope that included a 25 percent increase above the total (NASA, 2005). In 2013, the baseline airfield operation level was again increased to include an additional 45,000 annual U.S. Navy E-2/C-2 Field Carrier Landing Practice (FCLP) operations (USN, 2013). Therefore, a grand total of up to approximately 61,000 flight operations could occur at the WFF airfield in a given year.

#### **2.1.1.2 Airspace**

The WFF airfield airspace environment is comprised of FAA designated Class “D” airspace. Class D airspace generally surrounds airports with an operations control tower. Class D airspace for NASA is above the WFF runways extending from surface to 750 m (2,500 ft) mean sea level (MSL) in an 8 kilometer (km) (5 mile [mi]) radius of the airport. R-6604A/B is NASA controlled/Restricted Area Airspace that overlies all of Wallops Island, the majority of the Mainland, and a portion of the Main Base runways (refer to **Figure 2-1**). R-6604A/B also connects to the Navy’s offshore Fleet Area Control and Surveillance Facility, Virginia Capes Operating Area (FACSFAC VACAPES) managed W-386. R-6604A/B is available 24 hours a day, 7 days a week from the surface to unlimited altitude, while W-386 is from the surface to unlimited altitude with hours of use being intermittent. Notices-to-Airmen (NOTAMs) are issued when these areas are activated. When not in use, R-6604A/B and W-386 are “cold” and the airspace is returned to the NAS.

The northwestern portion of R-6604A/B presents some ambiguity since this portion overlies, approximately, the southeast portion of the WFF airport air traffic area. Normally, the WFF Air Traffic Control (ATC) tower is the focal point of control for all air traffic transiting that portion of R-6604A/B extending into the airport air traffic area. However, the point of control for this northwest portion is relinquished to the WFF Range Test Director by the control tower operator, when test range operations dictate a need. Non-participating aircraft must contact the WFF Range Control Center or the Washington Air Route Traffic Control Center (ARTCC) to obtain clearance to transit through any portion of the restricted area. When not activated, the Restricted Area Airspace is made available to general aviation and commercial air traffic.



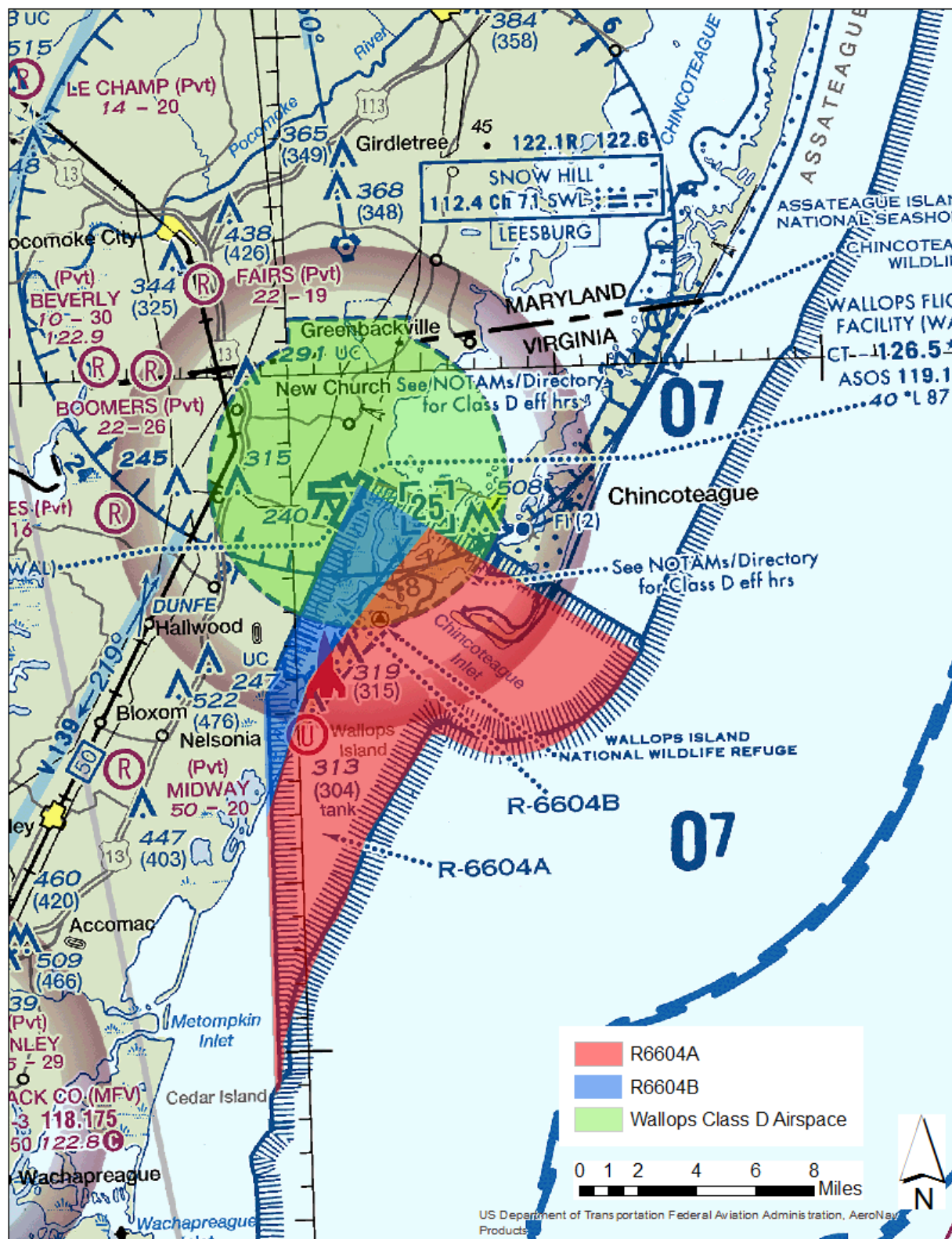


Figure 2-1: WFF Restricted Area R6604A/B and Class D Airspaces

### **2.1.1.3 Aviation Safety**

In addition to complying with all applicable FAA aviation safety guidance, WFF has an established Aviation Safety Program that must be followed during all piloted aircraft and UAS operations. Defined in Goddard Procedural Requirement (GPR) 8715.2, *Aviation Safety Program*, the program is overseen by an Aviation Safety Council and coordinated by an on-site Aviation Safety Officer (ASO). Key program elements include aircraft safety training, education, and awareness; hazard and mishap reporting and investigation; and airworthiness reviews prior to changes in aircraft design or configuration.

Another important component of aviation safety at WFF is the ongoing wildlife hazard management program, sometimes referred to as the Bird/Wildlife Aircraft Safety Hazard (BASH) program. According to **Cleary and Dolbeer (2004)**, “Aircraft collisions with wildlife, also commonly referred to as wildlife strikes, annually cost the civil aviation industry in the USA at least \$500 million in direct damage and associated costs and over 500,000 hours of aircraft down time. Although the economic costs of wildlife strikes are extreme, the cost in human lives lost when aircraft crash as a result of strikes best illustrates the need for management of the wildlife strike problem.” Performed on NASA’s behalf by the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service’s Wildlife Services Division, the purpose of the program is to mitigate both short- and long-term hazards to aviation. Since the development of WFF’s Wildlife Hazard Management Plan in 2001, USDA has maintained a full-time presence at WFF to disperse and remove birds and mammals from the aircraft operating area. Under the WFF BASH program, the WFF Aviation Safety Working Group consisting of the USDA, Airport Management, Airport Operations, Aviation Safety Office, and Senior Management meets quarterly to identify, manage, and monitor wildlife-related hazards at WFF. Program objectives include reducing the attractiveness of WFF to birds and wildlife by minimizing food sources, nesting sites, and roosting habitat within the airfield clear zones. The USDA at WFF holds the following Federal and State depredation permits: U.S. Fish and Wildlife Service (USFWS) Migratory Bird Depredation Permit at Airports, USFWS Eagle Depredation Permit (Harassment Only), and Virginia Department of Game and Inland Fisheries Kill Permit. In accordance with these permits, USDA personnel may use a variety of lethal and non-lethal methods to disperse wildlife within and adjacent to the WFF airfield. These methods may include: identifying and manipulating species habitat and roosts; employing techniques to disperse species; and, if deemed necessary, lethal or non-lethal removal of birds and/or mammals that pose a hazard to human health and aviation safety. Additionally, Section 15.2-2204 of the Code of Virginia directs the Accomack County Planning Commission to consult with WFF prior to changing the zoning of, or approving certain uses of, properties within 915 m (3,000 ft) of the WFF boundary. Related to BASH, WFF works with Accomack County to ensure that aviation safety is considered when siting water reservoirs, parks and golf courses with artificial ponds, waste handling facilities, animal processing facilities, and landfills that would attract birds and wildlife, potentially creating an aircraft strike hazard.

## **2.2 No Action Alternative**

CEQ's NEPA implementing regulations require that an agency "include the alternative of no action" as one of the alternatives it considers (40 CFR 1502.14[d]). The No Action Alternative serves as a baseline against which the impacts of the Proposed Action are compared. Under the No Action Alternative for this EA, FAA would not grant the airspace change that NASA has requested. In either instance, aircraft operations at WFF would continue at the same tempo within the Class D airspace, R-6604A/B, and offshore Warning Areas controlled by the FACSFAC VACAPES. The NEPA analyses referenced in **Section 1.4** above, form the baseline for the No Action Alternative.

## **2.3 Proposed Action**

### **2.3.1 NASA**

With the purpose of safely segregating civil air traffic from flight testing of unproven, modified, and experimental aerial systems, NASA has applied to FAA for the expansion of R-6604 by adding new airspaces designated R-6604C/D/E (**Figure 2-2**). R-6604C would incorporate the airspace from the ground surface up to, and including, 1,065 m (3,500 ft) above ground level (AGL); would be linked to R-6604A/B; and would extend through and beyond the Class D airspace. R-6604D would extend from 30 m (100 ft) AGL to 1,065 m (3,500 ft) AGL; whereas, R-6604E would span from 213 m (700 ft) AGL to 1,065 m (3,500 ft) AGL. To ensure the least impact on the aviation community, NASA would implement the following as integral parts of the proposed action:

- Similar to existing R-6604A/B, each section of airspace could be activated separately, as needed.
- Activation of R-6604C/D/E would be accomplished by issuing a NOTAM at least 12 hours prior to the activation.
- NASA would staff the WFF ATC tower whenever R-6604C/D/E are active.
- Status messages would be broadcast real-time through the airfield's Automatic Terminal Information Service (ATIS) system.
- Washington ARTCC would be the sole controlling agency for NASA utilized airspace.
- WFF proposes to enter into Letters of Agreement with local aviators and airfield owners to facilitate procedures (e.g. checklists, WFF ATC tower contact information, etc.) for operating in the airspace, whether active or inactive.
- NASA proposes to allow small UAS (defined as those less than 25 kilograms [55 pounds]) to conduct flight operations in accordance with FAA Rule Part 107 within the proposed Restricted Area Airspace without a Letter of Agreement.

NASA and its partners' aircraft are currently operating in the airspace proposed for expansion but the risks associated with experimental flight testing at WFF can neither be mitigated by the existing

Restricted Area Airspace nor contained within the Class D airspace surrounding the WFF airfield. Therefore, the proposed expansion is considered a risk mitigation measure that would help protect general aviation and civilian aircraft from unavoidable hazards associated with experimental flight tests. This proposal would formally designate the operating airspace as restricted; thereby, permitting NASA to close the airspace to non-participating aircraft when in use.

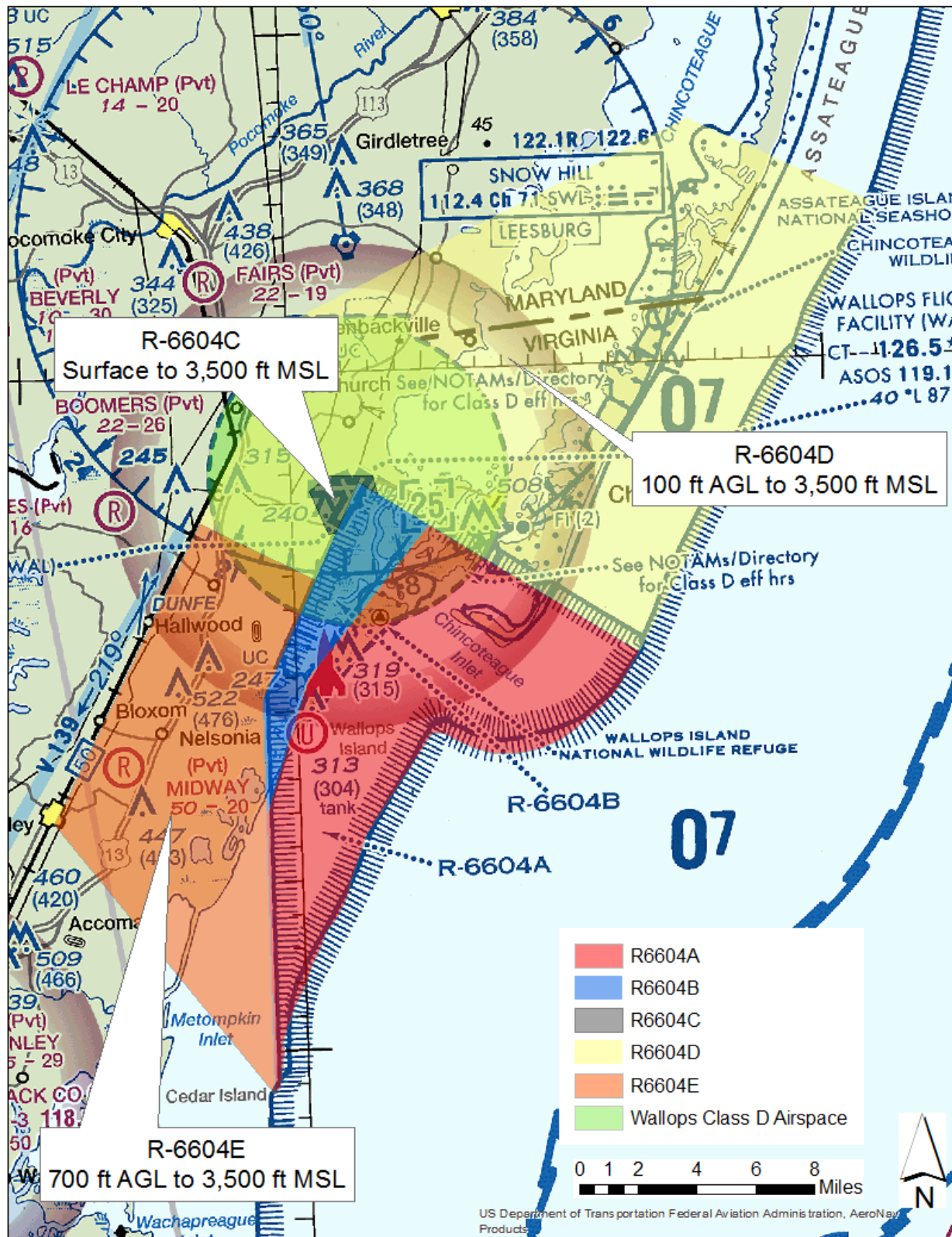
The geometry of the proposed Restricted Area Airspace expansion is based upon weather minimums for visual flight rules (VFR)<sup>1</sup>, cloud clearances, and terminal area performance of the typical unproven, experimental, and modified aircraft profiles to be flown. Expansion would not involve changes in the current WFF approach patterns, glide slopes, or landing patterns. The floor and ceiling altitudes [from surface up to, and including, 1,065 m (3,500 ft) AGL] represented the minimums required to accomplish the necessary test maneuvers associated with the flight events. The WFF airfield, which would be covered by R-6604C, is already encompassed in the Class D airspace that WFF controls from surface to 760 m (2,500 ft) AGL. The proposal would extend the airspace an additional 305 m (1,000 ft) in altitude. A ground surface floor is required in this section of Restricted Area Airspace as it encompasses the airfield itself where flight test operations originate or terminate. Although for safety purposes, NASA would prefer that the floor of the northern parcel, R-6604D, extend to the surface, this would not be possible as the Federal government does not own these lands; therefore, NASA has proposed a floor of 30 m (100 ft) AGL for R-6604D. This floor altitude would be essential to ensure that all test aircraft remain within the proposed Restricted Area Airspace while flying a normal 3-degree glideslope to touchdown. The floor of the proposed southern parcel, R-6604E, was adjusted to 215 m (700 ft) to accommodate for the three private airfields in that area. This altitude would allow for local aviators to transit in and out of those airfields even if the Restricted Area Airspace is active.

Wallops' current Restricted Area Airspace, R-6604A/B, which is used during NASA launch range operations, spans from the surface to unlimited altitude. Linked to R-6604A/B, and extending through the WFF Main Base Class D airspace, the expansion of the Restricted Area Airspace would fully cover the WFF airfield and would encompass the airspace in which high-risk operations originating from the airfield are currently conducted. Allowing for the vertical dimension, the proposed new Restricted Area Airspace, ending at 1,065 m (3,500 ft) AGL, would represent a small fraction of volume compared to R-6604A/B. Considering that only airspace below 12,200 m (40,000 ft) AGL is usable for general aviation traffic, the new expanded areas would be a very small percentage of the current Restricted Area Airspace in the region.

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<sup>1</sup> Visual Flight Rules - rules that govern the procedures for conducting flight under visual conditions.





Note ft: feet; AGL: above ground level; MSL: mean sea level

Figure 2-2: Proposed Restricted Area Airspace R-6604C/D/E

While attempting to provide safe separation from the unusual hazards associated with experimental flight tests, NASA recognizes the need for general aviation to remain overland when conducting flight operations. Therefore, in order to ensure the continued over land flight of civilian aircraft when either R-6604C/D/E is activated, the proposed Restricted Area Airspace would not extend further west than the existing WFF Class D Airspace. This would provide civilian air traffic an overland north-south route along Virginia and Maryland’s Eastern Shores. When the airspace restriction is not activated, the airspace included within R-6604A/B and the proposed addition of R-6604C/D/E would be made available to general aviation and commercial aircraft. Additionally, NASA would activate only that portion of the Restricted Area Airspace that would be required for a specific flight profile and relinquish the remaining Restricted Area Airspace to the NAS through the Washington ARTCC. This is consistent with NASA’s current practice for R-6604A/B.

The annual airfield operations at WFF in 2015 totaled 41,786 (Ferrier, 2016). The maximum baseline of annual airfield operations at WFF is approximately 61,000 (USN, 2013). Neither the types of aircraft hosted at WFF nor their operational tempo would change with the proposed expanded range (R-6604C/D/E). **Table 2-1** lists the forecasted activation of each of the airspace areas.

**Table 2-1: Comparison of Restricted Area Airspace Use**

Alternative	Special Use Airspace	Average Daily Use Duration (hours)	Average Days Per Year	Average Annual Usage (hours)
<b>No Action</b>	R-6604A	12	269	3,320
	R-6604B	11	240	2,642
<b>Proposed Action</b>	R-6604C	1.5	120	180
	R-6604D	1.5	120	180
	R-6604E	1.5	40	60

### 2.3.2 FAA

In response to NASA’s request for the expansion of Restricted Area Airspace, FAA considered the merits of NASA’s proposal per its 14 CFR Part 73 rulemaking process and subsequently published a notice of proposed rulemaking for the “Proposed Amendment and Establishment of Restricted Areas; Chincoteague Inlet, VA” in the *Federal Register* (80 FR 54444). FAA invited public comments on the proposal from September 10, 2015, through October 26, 2015 and received eleven comments during that period (Appendix D). On January 21, 2016, the FAA announced in 81 FR 3353 the reopening of the public comment period until February 22, 2016. Two additional comments were received during this period (Appendix D). This EA incorporates responses to those public comments. Upon consideration of the comments, FAA would decide whether to approve or deny NASA’s request. However, the agency cannot make a final decision on any particular SUA proposal prior to the completion of both the environmental and the aeronautical review processes. Therefore, FAA would not issue its final rule on the proposed

airspace action until it has met its NEPA obligations (intended through the FAA's adoption of this NEPA document) and any proposed changes have cleared the FAA aeronautical review process.

If FAA grants NASA's request, the new Restricted Area Airspace would be charted on applicable instrument approach procedures. FAA's Aeronautical Study would determine if any changes would be warranted to either NASA's proposal or general aviation in the area, e.g., providing VFR stand-alone waypoints in the Chincoteague area, which may assist pilots unfamiliar with the area to safely navigate around any expansion of the Restricted Area Airspace.

## **2.4 Alternatives Eliminated from Further Consideration**

### **2.4.1 Different Type of SUA Designation**

NASA and FAA are not considering designating the airspace under another type of SUA (e.g., Warning Area or Military Operations Area) protect civil aircraft from the unusual hazards associated with experimental flight test by restricting them from entering the test airspace. At-will entrance by civil aircraft could create a hazard to test aircraft and personnel, civilian aircraft and operators, the public, and civil and government infrastructure on the ground. This risk is in direct opposition to the purpose of the Proposed Action.

During the design of the proposal, use of local SUA areas were considered but deemed inadequate for meeting NASA's test objectives and program requirements. For example, the vast majority of Patuxent River Naval Air Station's Restricted Area Airspace is not exclusive use. R-4006 and R-4008 (the largest sections) are co-use where many aircraft operate in the same airspace. Use of this airspace would not mitigate the risks of a midair collision during certain flight test maneuvers. The parts of the Patuxent River Restricted Area Airspace that could be scheduled as exclusive use are in high demand and used for priority DOD events such as Joint Strike Fighter Testing. It is highly unlikely that NASA would be granted access to this airspace, especially given NASA's dynamic program requirements.

### **2.4.2 Different Geometry**

In 2008, NASA entered into a long, iterative process with FAA. Over the years, the proposed Restricted Area Airspace has been vetted numerous times with local stakeholders including Potomac Terminal Radar Approach Control (TRACON), Patuxent Approach, Washington ARTCC, and FAA Eastern Services Center. Through this process, the proposed airspace has been reduced in size when compared to the initial request made by NASA in 2008 (**Figure 2-3**). Under instrument flight rules (IFR)<sup>2</sup>, aircraft may utilize specific flight approaches and navigational aids when landing at local airports. The area navigation approach path for Accomack County Airport Runway 21 would run down the western edge of R-6604D/E, northeast of the airport. Furthermore, the radio navigation station (VHF omnidirectional range [VOR] and distance measuring equipment [DME] or VOR/DME-A) approach for Crisfield Municipal Airport and the instrument landing

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<sup>2</sup> Instrument Flight Rules - a set of rules governing the conduct of flight under instrument meteorological conditions.

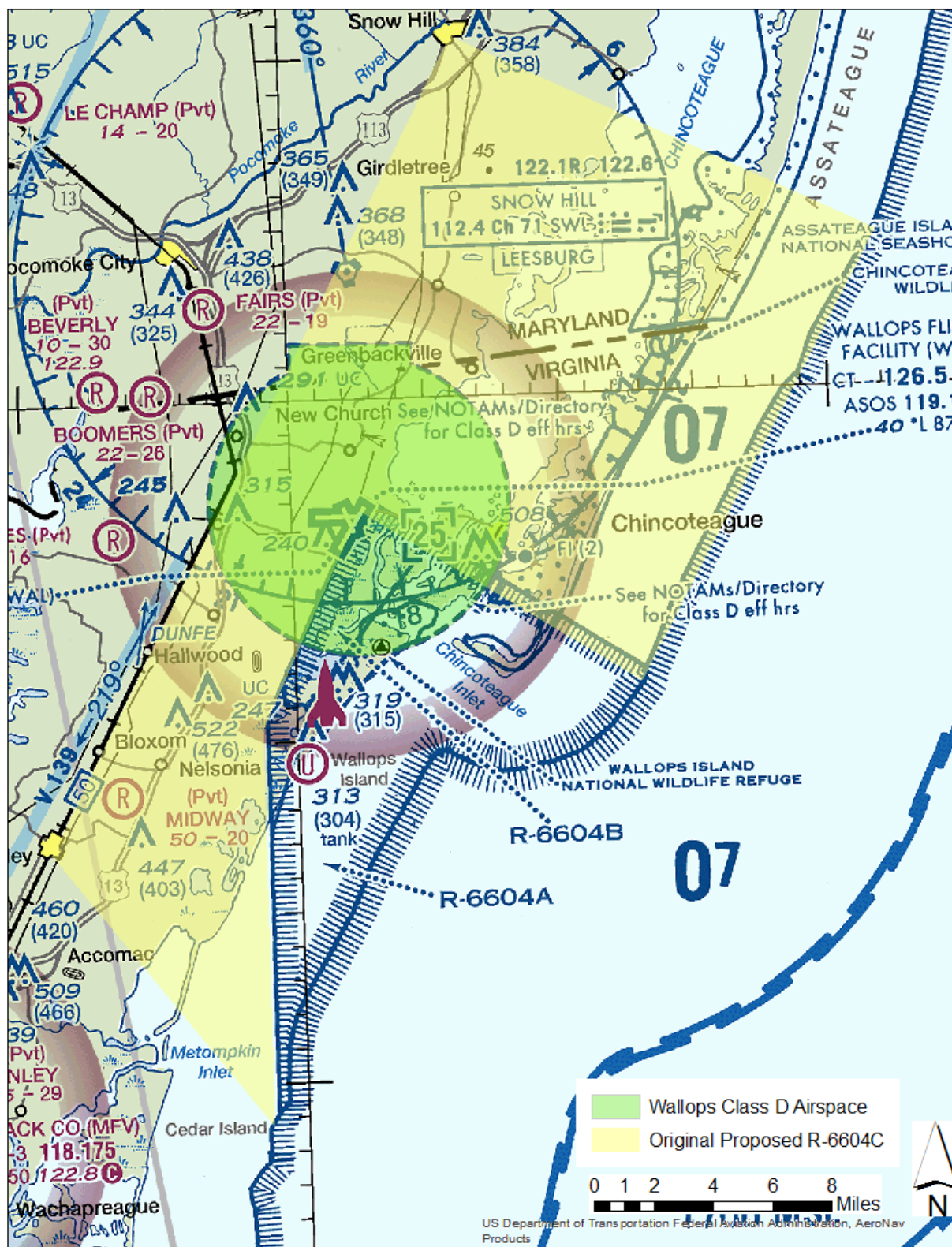
system for approach Runway 32 at Salisbury-Ocean City Regional both use the Snow Hill navigational aid as an initial approach fix. This navigational aid originally coincided with the proposed western edge of R-6604C (**Figure 2-3**). Although, aircraft operating under VFR conditions generally do not have a requirement to overfly this navigational aid, aircraft operating in IFR conditions may need to overfly this point while on an instrument approach. Therefore, based upon discussions with the local controlling agencies, NASA removed the northwestern corner of the airspace in order to minimize the impact to existing approaches into the Salisbury-Ocean City, Maryland Regional airport.

NASA considered the possibility of raising the floors of each section of the proposed Restricted Area Airspace to various altitudes up to 450 m (1,500 ft) AGL. Although for safety purposes, NASA would prefer that the floor of the northern parcel R-6604D, extend to the surface, this would not be possible as the government does not own these lands. Therefore, NASA proposed a floor of 30 m (100 ft) AGL for R-6604D which would be essential to ensure all test aircraft remain within the proposed Restricted Area Airspace while flying a normal 3-degree glideslope to touchdown. The floor of the proposed southern parcel, R-6604E, was adjusted to 215 m (700 ft) to accommodate for the three private airfields in that area. This altitude would allow for local aviators to transit in and out of those airfields even if the Restricted Area Airspace is active. Similar to R-6604D, a higher floor altitude for R-6604E would prevent a normal 3-degree glideslope to touchdown.

NASA also considered the possibility of maintaining a 1.4 km (0.75 nautical miles [nm]) separation from the centerline of V-139 along the entire western border of the requested expansion of the Restricted Area Airspace. However, this would prevent the utilization of WFF Runway 10-28 for test points such as tower flybys for pitot static calibration (above 250 KIAS [288 mph]), as well as restrict departures from Runway 28 for unproven or experimental aircraft. Further tailoring the airspace geometry would present a hazard to test aircraft and personnel, civilian aircraft and operators, the public, and civil and government infrastructure on the ground. This risk is in direct opposition to the purpose of the proposed action.

Finally, the initial proposal of R-6604C consisted of a single block of airspace from 213 to 1,065 m (700 to 3,500 ft) AGL. To further mitigate impacts to general aviation, the airspace was divided into three smaller, independent blocks such that only the airspace needed for testing could be activated, at any given time (refer to **Table 2-1** for forecasted hours of operation for each airspace area). The requested tailored airspace as currently proposed is depicted in **Figure 2-2**. NASA believes that this solution will minimize the impact to civil aviation on the Delmarva Peninsula.





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### **3 Affected Environment and Environmental Consequences**

This chapter provides a description of the existing environment that could be affected by the proposed action at WFF Main Base airfield, and the potential environmental impacts of the proposed action. As directed by NEPA, CEQ regulations on implementing NEPA (40 CFR 1500-1508), NASA's regulations for implementing NEPA (14 CFR 1216), NASA NEPA management requirements (NPR 8580.1A), and FAA NEPA obligations (FAA Order 1050.1F) the description of the affected environment focuses on those resource areas potentially subject to impacts. According to Section 1508.27 of these CEQ regulations, determining the level of significance of an environmental impact requires that both context and intensity be considered. These are defined in Section 1508.27 as follows.

- "Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the Proposed Action. For instance, in the case of a site-specific action significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant."
- "Intensity. This refers to the severity of the impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:
  - Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect would be beneficial.
  - The degree to which the Proposed Action affects public health or safety.
  - Unique characteristics of the geographic area such as proximity to historic or Cultural Resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
  - The degree to which the effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.
  - The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
  - Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
  - The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of

Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined critical under the Endangered Species Act of 1973.
- Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment."

NASA's NEPA policy requires NASA Centers to maintain an ERD that provides a detailed description of environmental resources and related permits. The 2016 *Environmental Resources Document for the Wallops Flight Facility* contains a complete description of all resource areas at WFF (NASA, 2016). The ERD allows the NEPA analysis to focus solely on affected resources. All resources potentially affected by the proposed action are summarized in this EA; otherwise they are incorporated by reference. The 2016 ERD can be accessed on the World Wide Web at [http://sites.wff.nasa.gov/code250/docs/2016\\_WFF\\_REDACTED\\_ERD.pdf](http://sites.wff.nasa.gov/code250/docs/2016_WFF_REDACTED_ERD.pdf).

In this analysis, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact. The affected environment for this EA includes the geographic extent of the airspace, land, and water encompassed by the proposed expanded Restricted Area Airspace. As discussed below, certain resource areas have been eliminated from consideration in this EA because they are not expected to be impacted by the proposed action. The environmental resources potentially affected by the proposed action and evaluated in this EA are presented in **Table 3-1** and are analyzed in Sections 3.1 through 3.5.

#### ***Resources Considered but Eliminated from Detailed Analysis***

Numerous resources were considered but do not warrant detailed examination in this EA because either the resource would be unaffected by the alternatives or, there would be no measurable difference in effects between the alternatives. In this case, for a resource to not warrant detailed discussion in this EA, the resource baseline (i.e., the No Action Alternative) must have been appropriately assessed and is readily available for review in another NEPA document or in the 2016 ERD. In accordance with FAA Order 1050.1F, for those resources not warranting detailed discussion, a brief description and justification follows **Table 3-1**.

Table 3-1: Resources Considered for Analysis in this EA

Resource Considered	Analyzed in Detail in this EA?	If Yes, EA Section If No, Rationale for Elimination	If No Change to Current Baseline Conditions, <a href="#">Refer to ERD</a> Section Number
<b>Social Environment</b>			
DOT Act Section 4(f) Lands	Yes	Section 3.1	NA
Airspace Management	Yes	Section 3.2	NA
Health and Safety	Yes	Section 3.3	12.5
General/Civil Aviation	Yes	Section 3.4	11.6.4, 13
Land and Water Uses	No	No change to baseline conditions.	4.7
Cultural Resources	No	No change to baseline conditions.	11
Population	No	No effect on resource.	12.1
Employment and Income	No	No effect on resource.	12.3, 12.4
Environmental Justice	No	No change to baseline conditions.	12.2
<b>Biological Environment</b>			
Vegetation	No	No effect on resource.	5.1
Terrestrial Wildlife	No	No change to baseline conditions.	5.2
Special Status Species	No	No change to baseline conditions.	5.4
<b>Physical Environment</b>			
Noise	Yes	Section 3.5	10
Air Quality	No	No change to baseline conditions.	2.3
Surface Waters	No	No effect on resource.	3.1
Stormwater	No	No effect on resource.	3.2
Wastewater	No	No effect on resource.	3.2.1
Wetlands	No	No effect on resource.	3.6
Floodplains	No	No effect on resource.	3.7
Coastal Zone	No	No effect on resource.	3.8
Geology, Topography, and Soils	No	No effect on resource.	4.1, 4.2, 4.4 4.5
Environmental Restoration	No	No change to baseline conditions.	4.8
Hazardous Materials and Waste	No	No change to baseline conditions.	6, 7, 8
Non-Ionizing Radiation	No	No change to baseline conditions.	9.2

### **Social Environment**

**Land and Water Uses:** WFF is located in Accomack County, Virginia, in the northern area of Virginia's Eastern Shore on the Delmarva Peninsula. The facility is divided into three distinct land areas: the Main Base, Wallops Mainland, and Wallops Island. The Main Base is largely developed and consists of various land uses. Most acreage at the Main Base is dedicated to airfield operations. Small tracts of land to the west, directly abutting WFF, are zoned industrial, residential, or general business by Accomack County; however, the majority of the land under the proposed Restricted Area Airspace is zoned agricultural (**Accomack County, 2014**). The Town of Chincoteague, located approximately 8 km (5 mi) east of the Main Base on Chincoteague Island,



is the largest community in the area with approximately 4,300 permanent residents. The island attracts a large tourist population during the summer months to visit the public beaches and attend the annual Assateague Island pony swim and roundup in July. During the summer months, the Island population expands to approximately 15,000 people (**Town of Chincoteague, 2010**). The Wallops Island National Wildlife Refuge (NWR) is located east of the Main Base and is under the jurisdiction of the USFWS. This refuge, which is not open to the general public, consists of approximately 150 hectares (375 acres) of mostly salt marsh and some forested land across Route 175 from the Main Base.

The current *Accomack County Comprehensive Plan* was amended in February 2014 and is intended to guide the future social, economic, and physical development of Accomack County to ensure the provision of adequate, quality, community facilities and the maintenance of a healthy, safe, orderly, and harmonious environment (**Accomack County, 2014**). According to **Accomack County (2014)**, Chapter 6: Future Land Use Plan, the majority of land under the proposed Restricted Area Airspace would remain agriculture, forestal, or conservation districts. By their nature, these land uses limit high population density development and, therefore, would be highly compatible with the high risk, experimental nature of NASA's test flights in the overlying airspace.

NASA has recently participated with Accomack County and the Navy's Surface Combat Systems Center in the preparation of the Accomack County / Wallops Island Joint Land Use Study (JLUS). A primary input to the JLUS was WFF's range hazard areas within the County where special considerations (e.g., airfield accident potential zones) could be necessary to ensure both public safety and NASA's ability to meet mandatory range safety criteria. The principal objective of the JLUS was to identify land use issues that may impact the operational capabilities of WFF, and to identify actions participating agencies can pursue to ensure that incompatible development does not impact the facility's future mission requirements. Through the JLUS process, an action plan to guide future planning efforts was established (**Accomack County, 2015**).

Current local, state, and federal regulations and requirements for property owners wishing to erect tall structures on their private or corporate property (e.g., cell towers, antennas, grain storage, etc.) would remain unchanged. Accomack County has established zoning ordinances and permitting procedures in Chapter 106 of the Accomack County Code for all structures proposed in the county. Regardless of zoning district, the county limits public building (e.g., schools, churches, hospitals) heights to 20 m (65 ft) AGL, residential buildings at 10.7 to 13.7 m (35 to 45 ft) AGL, towers and collateral structures to 30.5 m (100 ft) AGL, and any structure or vegetation that encroaches into the height of the FAA Part 77 airfield surfaces (defined in Title 14 Code of Federal Regulations [CFR] Part 77) surrounding the WFF airfield. The Commonwealth, through Section 15.2-2204 of the Code of Virginia requires the County to consult with WFF on changes in land use that involve any parcel of land located within 915 m (3,000 ft) of the facility boundary. Federally, the FAA has additional permitting regulations in 14 CFR 77.9 for any structure in the U. S. proposed to be 60 m (200 ft) AGL or greater. These regulations have been established regardless of overlying

airspace designation. NASA's proposal would not change the implementation of these existing requirements.

The Proposed Action would not impact the land or water use or existing land management plans on or around WFF; therefore, this resource is not considered further in this analysis.

**Cultural Resources:** In accordance with Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966, as amended, NASA has entered into a Programmatic Agreement with the Virginia State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation to outline how WFF will manage its cultural resources as an integral part its operations and missions (NASA, 2014a). Under this Programmatic Agreement, certain activities were identified to have limited potential to affect historic properties and do not require SHPO review. These exempted activities include manned and unmanned, fixed or rotary wing aircraft flights from either the Main Base runways or from the Wallops Island UAS airstrips; therefore, the Proposed Action would not impact cultural or historic resources on or around WFF and this resource is not considered further in this analysis. Supporting this conclusion, on August 2, 2016, the Virginia SHPO concurred that this action would have no potential to affect historic properties.

**Population, Employment and Income:** The majority of WFF employees (civil servants and contractors) are residents of Accomack County as well as four additional counties: Northampton County in Virginia; and Somerset, Wicomico, and Worcester counties in Maryland. Population levels for the five counties range from a low of approximately 12,000 people in Northampton County to approximately 100,000 people in Wicomico County, with the Virginia counties representing approximately 0.5 percent of that state's population and the Maryland counties representing approximately 3.0 percent of that state's population (USCB, 2016).

All five counties have a lower per capita income than their respective states as a whole; however, none of these counties includes major urban centers. The poverty data indicate that all five counties also have a higher percentage of the population living in poverty than their respective states. Northampton County has the highest percentage of population living in poverty, at more than double the Virginia average. Accomack and Northampton Counties are both approximately average in the region in terms of unemployment rates. It is also notable that employment fluctuates seasonally in this region (due to farm labor and summer tourism labor), with higher employment during the months of June through October.

Local, State, and Federal governments employ approximately 21 percent of the labor force in Accomack and Northampton Counties (Virginia Employment Commission, 2016). Of those, NASA employment categories at WFF consist largely of managerial, professional, and technical disciplines with higher than regional average salaries. The 2015 average salary for Civil Servants at WFF was approximately \$100,500. The range for the middle 50% of the Civil Servants' salary was between approximately \$92,000 and \$115,000 (Billger, 2015). WFF mean annual income

exceeded the median family incomes of \$39,389 for Accomack County and \$34,656 for Northampton County in 2014. Due to the gap between salaries of WFF employees and most area residents, the facility contributes considerably to the local economy.

According to the **Virginia Employment Commission (2016)**, the most important industries to the Eastern Shore are agriculture, seafood, and tourism with 5 percent of the labor force in Accomack and Northampton Counties employed in these areas. The Proposed Action would be highly compatible with agribusinesses including crops, animal production, and forestry. NASA realizes that timely aerial application of pesticides and fertilizers as well as aerial crop surveillance is critical to these operations. The Proposed Action would also be compatible with aerial mosquito spraying. Each proposed Restricted Area Airspace would be independently activated for limited hours in a day, month, and year. During activation of R-6604C/D/E, the WFF ATC tower would be staffed and NASA personnel would work closely with farmers or foresters that needs airspace access for either manned or UAS flights to assess or aerially treat crops. WFF proposes to enter into Letters of Agreement with these local aviators to facilitate procedures for operating in the airspace, whether active or inactive (e.g. checklists, WFF ATC tower contact information, etc.). NASA proposes to allow small UAS to conduct flight operations in accordance with FAA Rule Part 107 within the proposed Restricted Area Airspace without a Letter of Agreement. Real-time ATIS broadcasting would allow agribusiness owners to determine if any airspace is active or inactive.

The Proposed Action would not change the population levels, employment, or economic opportunities on or around WFF; therefore, these resources are not considered further in this analysis.

**Environmental Justice:** Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, tasks “each federal agency [to] make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations.” In 2014, WFF prepared an Environmental Justice Implementation Plan that considered the programs, policies and activities at WFF with impacts that extended beyond the boundaries of the facility (**NASA, 2014b**). This plan looked at the Census Tract Block Group level of data for Accomack County to determine which Block Groups have higher percentages of minority populations or children when compared to the county. When compared to Accomack County as a whole, Census Tract 902, Block Group 3, has a higher percentage of minorities (42.3 percent in the block group versus 38.9 percent in Accomack County). Additionally, Census Tract 9802, Block Group 1, has a higher percentage of children under the age of 21 than Accomack County. The type and intensity of effects of the proposed action on minority, low income populations, or children would be the same as those affecting individuals of all other ages, ethnicities, or income-levels.



Like the 2014 Environmental Justice Implementation Plan, this EA used levels of noise as the metric to measure impacts to at risk populations (refer to **Section 3.5**, below for more information on potential noise impacts). Expansion of the Restricted Area Airspace would not change the existing Day Night Average Sound Level (DNL) of 65 decibels (dB) and above noise zone contour for the WFF airfield and, although this contour extends into Accomack County, it does not encompass either of these Block Groups. Therefore, this resource is not considered further in this analysis.

### ***Biological Environment***

**Vegetation:** Approximately 63 percent of the Main Base is open space for runway clear zones or developed areas. The area around the runways is maintained as grassland through regular mowing. Approximately 493 hectares (1,217 acres) at WFF Main Base have been classified as developed, 116 hectares (287 acres) as forested/shrub-scrub, 22 hectares (54 acres) as open habitats (i.e., grassland/herbaceous), and 6 hectares (14 acres) as open water by the USGS 2006 National Land Cover Database (**Fry et al., 2011**). The National Land Cover Database is a detailed land surface reference based on Landsat satellite images. Forested areas occur in the southwestern and northwestern portions of the facility. Dominant species in upland forests at WFF Main Base include loblolly pine (*Pinus taeda*), oaks (*Quercus* spp.), hickories (*Carya* spp.), tulip-poplar (*Liriodendron tulipifera*), dogwood (*Cornus florida*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), and sassafras (*Sassafras albidum*). Additionally, wetlands (discussed below) have been classified at the WFF Main Base.

The Virginia Department of Conservation and Recreation (VDCR), Division of Natural Heritage, has indicated the occurrence of two conservation sites on WFF Main Base: Little Mosquito Creek Conservation Site and Wallops Island Seeps Conservation Site. The Little Mosquito Creek Conservation Site is designated due to the occurrence of a rare habitat type, Tidal Oligohaline Marsh, while the Wallops Island Seeps Conservation Site is designated due to the occurrence of a rare plant (low frostweed [*Crocanthemum propinquum*]) and a rare habitat type, Coastal Plain/Outer Piedmont Seepage Bog.

The Commonwealth of Virginia has agreed with NASA that the Proposed Action would not be expected to impact vegetation or the conservation sites on or around WFF (refer to Appendix A); therefore, this resource is not considered further in this analysis.

**Terrestrial Wildlife:** Terrestrial wildlife includes all common animal species, with the exception of those identified as special status species (discussed below). The terrestrial wildlife category includes amphibians, reptiles and mammals. Native bird species protected under the Migratory Bird Treaty Act (MBTA) are discussed as special status species, below.

Large mammal species documented at WFF include the white-tailed deer (*Odocoileus virginianus*) and red fox (*Vulpes vulpes*). Small mammals include the squirrel (*Sciurus carolinensis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), whitefooted mouse (*Peromyscus*

*leucopus*), meadow vole (*Microtus pennsylvanicus*), marsh rice rat (*Oryzomys palustris*), and eastern cottontail (*Sylvilagus floridanus*). River otters (*Lontra canadensis*) have been observed on the marsh/upland interface. Amphibians include the Fowler's toad (*Anaxyrus fowleri*) and green tree frog (*Hyla cinerea*). Reptiles include the eastern rat snake (*Pantherophis alleghaniensis*), black racer (*Coluber constrictor constrictor*), hognose snake (*Heterodon platyrhinos*), snapping turtle (*Chelydra serpentina*), eastern box turtle (*Terrapene carolina carolina*), northern fence lizard (*Sceloporus undulatus*), five-lined skink (*Eumeces fasciatus*), and diamondback terrapin (*Malaclemys terrapin*) (NASA 2008, 2011).

This EA used levels of noise as the metric to measure impacts to wildlife. Based on noise studies (Grubb and King, 1991; Ellis et al., 1991; Black et al., 1984; Conomy et al., 1998), some species may endure longer-term effects, due to repeated physiological responses, but most species would be expected to acclimate or habituate to noise exposure after short-term effects. Given that the current aircraft operations at WFF Main Base would not change and that the likelihood that wildlife on and around the Main Base are already habituated to aircraft noise, the Proposed Action would not be expected to impact wildlife on or around WFF. The Commonwealth of Virginia has agreed with NASA that the Proposed Action would not be expected to impact wildlife resources (refer to Appendix A). Therefore, this resource is not considered further in this analysis.

**Special Status Species:** Special status species include any species which is listed, or proposed for listing, as threatened or endangered under the provisions of the Federal Endangered Species Act (ESA); species protected under other Federal laws including the Bald and Golden Eagle Protection Act (BGEPA) or the MTBA; species considered to be threatened or endangered under Virginia's ESA; or those species or habitats of conservation concern identified by the Commonwealth of Virginia. The USFWS and the National Marine Fisheries Service (NMFS) share federal jurisdiction for federally threatened and endangered species, with USFWS having lead responsibility on the land and NMFS having lead responsibility in the marine environment. MTBA protected species, bald eagles (*Haliaeetus leucocephalus*), and the federally threatened northern long-eared bat (*Myotis septentrionalis*) are known to nest and/or roost in the forested areas around the WFF Main Base. The federally endangered piping plover (*Charadrius melodus*) breed, nest and forage on nearby Wallops and Assateague Islands (under the proposed Restricted Area Airspace), while the federally threatened rufa red knot (*Calidris canutus rufa*) stops on these same islands during its long migration. Marine species including the federally and state endangered Atlantic sturgeon (*Acipenser o. oxyrinchus*) and federally protected marine mammals and sea turtles may migrate and forage through Chincoteague Bay and in the waterways around the Main Base. The federally threatened Northwest Atlantic Ocean distinct population segment of the loggerhead sea turtle (*Caretta caretta*) is known to nest on both Wallops and Assateague Islands.

In accordance with Section 7 of the Endangered Species Act, NASA included the potential for expanding its Restricted Area Airspace in the August 18, 2015, Biological Evaluation (NASA, 2015) and resulting USFWS-issued Biological Opinion (USFWS, 2016a). A summary of the major findings are presented below.

Plovers use wide sandy beaches on Metompkin, Assawoman, Wallops, and Assateague Islands for courtship, nesting, and foraging. Most plovers that nest farther north along the Atlantic coast are likely to pass through these islands during migration between mid-February and mid-May in the spring and from mid-July to mid-October in the fall. This may involve birds passing through in flight, but many of these birds stop and roost or feed on beaches, tidal flats, and overwash areas within the area under the Proposed Action. Following migration from southern overwintering areas, the majority of red knots arrive in the mid-Atlantic between late April and early June. Wallops and Assateague Islands provide important migratory stopover habitats for this species. The majority of knot activity on Wallops Island historically occurred on the north end of the island, with observed flocks ranging in size from less than 10 to approximately 675 individuals (**NASA, 2012b**).

In its June 2016 Biological Opinion and accompanying Incidental Take Statement, the USFWS concluded that collision with aircraft or UAS may cause the injury or death of a small number of piping plover or red knots but would not be likely to result in jeopardy to either of these species (**USFWS, 2016a**). Therefore, piping plover and red knots will not be considered further in this analysis.

Virtually all birds native to WFF are protected under the MBTA. The MBTA was designed to protect migratory birds and birds of conservation concern (BCC), including their eggs, nests, and feathers. BCC birds are species that, without additional conservation measures, are likely to become candidates for listing under the ESA. If an agency determines that implementation of a Proposed Action may result in a significant adverse effect on a population of a migratory bird species or BCC, they must confer and cooperate with the USFWS to develop appropriate and reasonable conservation measures to minimize or mitigate those identified significant adverse effects. Blackbirds, waterfowl, and gulls are the three most numerous bird groups observed at and in the area surrounding WFF Main Base (**USN, 2013**). During the winter months, individuals belonging to these species groups may form large flocks and use the natural areas in the vicinity of WFF for a night-time roosting, dispersing during the day to forage in the surrounding agricultural fields and returning in the evening to roost. During the spring and summer months, these daily migrations are less common and typically would not include large numbers of flocking birds. Nesting, foraging, and migrating MBTA and other bird species are likely habituated to noise disturbance at WFF, judging by their continual exposure to existing low-level flight operations; therefore, no impacts are anticipated to avian species and they are not considered further in this analysis.

On March 26, 2015, the College of William and Mary's Center for Conservation Biology flew a raptor survey over Virginia's eastern shore. Near the Main Base, biologists observed an active bald eagle nest in the Wallops National Wildlife Refuge, across Route 175 from the airfield, and a second active nest across Little Mosquito Creek from the M-Area (**Watts, 2016**). Two additional nests were identified on land under the Proposed Action on nearby Wallops Island. These nesting pairs of bald eagles, especially those in close proximity to the Main Base, are likely habituated to

noise disturbance at WFF, judging by their proximity to the airfield, continual exposure to existing low-level flight operations, and by the longevity and productivity of their nests; therefore, no impacts are anticipated to this species and they are not considered further in this analysis.

A 2014-2015 survey of northern long-eared bats did not detect this species in northern Accomack County; however, this lack of evidence does not disprove the potential for the species to occur here, especially within wooded areas (**Ford, 2016**). Specific to WFF, in 2008, acoustic bat surveys were conducted in the marshes on Wallops Island, with 0.3 percent of the calls identified attributable to the myotis guild to which this species belongs (**Stantec Consulting, 2008**). While northern long-eared bats were not separated from the rest of the guild, it is reasonable to assume that this species could occur in the vicinity of WFF, even if in low numbers. Given the current aircraft operations at WFF Main Base, northern long-eared bats roosting near the facility are likely habituated to aircraft activity and noise. Additionally, the USFWS Final ESA 4(d) Rule on northern long-eared bats states that white nose syndrome, not anthropogenic effects, is the leading threat to these species. The Rule regulates the removal of maternal roosting trees during the period from June 1 to July 31. Moreover, the USFWS concluded in their 2016 Biological Opinion that northern long eared bats would not likely be adversely affected by proposed or ongoing operation (excluding potential tree clearing) at WFF (**USFWS, 2016a**). No tree clearing is considered under the Proposed Action. Therefore, this species will not be considered further in this analysis

The Atlantic sturgeon is a federally and state endangered (state Tier II SGCN), long-lived, estuarine dependent, anadromous. These fish range from Newfoundland to the Gulf of Mexico and are highly migratory. Adults spend the majority of their lives in estuarine and marine waters, migrating to spawn in freshwater natal rivers in the spring and early summer. Atlantic sturgeon are benthic feeders and typically forage on benthic invertebrates (crustaceans, worms, mollusks, etc.) (**NMFS, 2016**). VDCR stated in their July 5, 2016, communication regarding this Proposed Action that "...we do not have any comments or concerns related to ESA-listed species under our jurisdiction." (**VDCR, 2016**). Therefore, this species will not be considered further in this analysis.

The loggerhead is the most abundant species of sea turtle in U.S. waters; occupying a range of habitats including offshore waters, the continental shelf, bays, estuaries, and lagoons. Loggerhead sea turtles occur in waters adjacent to and offshore of Wallops and Assateague Islands and are known to occasionally nest on both islands. In mid-July 2008, the first recorded loggerhead nest was discovered by NASA personnel on north Wallops Island. The same female nested again in 2010, 2012, and 2013. In its June 2016 Biological Opinion and accompanying Incidental Take Statement, the USFWS concluded that WFF aircraft operations and the proposed expansion of R-6604 would not be likely to adversely affect loggerheads (**USFWS, 2016a**). Additionally, VDCR did not have concerns for in-water sea turtles from this Proposed Action (**VDCR, 2016**). Therefore, this species will not be considered further in this analysis.

The only marine mammal species expected to occur in the waters underlying the proposed Restricted Area Airspace is the bottlenose dolphin (*Tursiops truncatus*). The Western North

Atlantic Coastal stock of bottlenose dolphins are considered depleted and are protected under the Marine Mammal Protection Act administered by NMFS. Bottlenose dolphins could occur in Chincoteague Bay (located to the northeast of WFF Main Base, between the mainland and Chincoteague Island) and the littoral zone of the Atlantic in spring, summer, and fall (**Waring et al., 2013**). During the winter (January to March), bottlenose dolphins are not likely to be found north of the southern Virginia coastline and would, therefore, not occur within the area (**Waring et al., 2013**). Smaller delphinids, including the bottlenose dolphin, generally react to aircraft overflights either neutrally or with a startle response (**Wursig et al. 1998**). It has also been reported that dolphins generally show no reaction to the overflight of survey aircraft unless the aircraft's shadow passes directly over them (**Richardson et al. 1995**). As it would be unlikely that marine mammals would be in the area during overflights, there is very low probability of a shadowing effect. Transmission of noise from aircraft into the water would be possible; however, animals would have to be at or near the surface at the time of an overflight to be exposed to elevated sound levels. **Laney and Cavanagh (2000)** modeled the F/A-18 Hornet in supersonic flight to obtain peak noise levels at the water surface and at depth. According to their research, "the principal reason for the lack of impact (to marine animals) from under water noise energy is that even for the strongest noise events (i.e., sonic booms) and good coupling to the water, the peak pressure and energy flux density are not sufficient to cause injury or harassment, at least under currently accepted criteria and thresholds." In prior consultation with NMFS regarding spotter aircraft deployment during launch activities, NMFS determined that the risk of interaction between aircraft and marine mammals was extremely unlikely to occur; that if interactions were to occur, would be at undetectable levels; and, therefore, any effects would be discountable and/or insignificant (**NMFS, 2015**). Additionally, VDCR did not have concerns for marine mammals from this Proposed Action (**VDCR, 2016**).

The tidal marsh areas surrounding the WFF Main Base serve as nursery grounds for a variety of fish species, due to the protection the marsh grasses provide and the abundance of food. Marsh grasses for example, provide protection to the spot (*Leiostomus xanthurus*), the northern pipefish (*Syngnathus fuscus*), the dusky pipefish (*Syngnathus floridae*), and bay anchovy (*Anchoa mitchilli*) (**VDCR, 1996**). Additionally, as noted above, there is very low probability of a shadowing effect and the energy from aircraft noise would not impact fish. Any chance exposure of fish to aircraft and the accompanying change in noise would last for only seconds as the aircraft quickly passes overhead. Considering the fact that overflight would be temporary and intermittent in nature, the Proposed Action would not impact fish near WFF. The Commonwealth of Virginia responded that it had no comments since the Proposed Action would not involve ground- or habitat-altering activities (refer to Appendix A). Therefore, fish species are not considered further in this analysis.

### ***Physical Environment***

**Air Quality:** The Clean Air Act (CAA), which was last amended in 1990, requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) (40 CFR 50) for pollutants considered harmful to public health and the environment. The EPA



Office of Air Quality Planning and Standards has set NAAQS for six principal pollutants, which are called "criteria" pollutants. The CAA established two types of NAAQS for these pollutants: primary and secondary. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. Virginia's ambient air quality standards mirror the NAAQS. WFF is located in an attainment area for all six NAAQS listed criteria air pollutants. An attainment area is an area considered to have air quality that is as good as or better than the NAAQS as defined by the CAA.

Prevention of Significant Deterioration (PSD) applies to new major sources or major modifications at existing sources for pollutants where the area the source is located is in attainment. Mobile air emissions, such as those from aircraft, are not subject to the PSD standards; however, the PSD thresholds provide a method to put the volume of mobile emissions in context as related to the NAAQS. Baseline annual aircraft operating emissions at WFF have been estimated to be below the limit for each criteria pollutant (USN, 2013). The Proposed Action would not change operational levels at WFF and, therefore, would not be expected to impact air on or around WFF. This resource is not considered further in this analysis.

**Surface Waters, Stormwater, and Wastewater:** There are approximately 11,535 m (37,840 ft) of surface waters on WFF Main Base. As such, WFF maintains a Stormwater Pollution Prevention Plan to ensure that its operations have minimal impact on stormwater quality and runoff to surface waters. WFF Main Base has both natural drainage patterns and stormwater swales and inlets to intercept and divert stormwater flow. Stormwater drains to Little Mosquito Creek from the northern portion of the facility; Mosquito Creek, Jenneys Gut, and Simoneaston Bay from the eastern and southeastern portions of the facility; and Wattsville Branch on the western and southwestern portions of the facility. All stormwater from WFF Main Base eventually flows to the Atlantic Ocean. WFF Main Base outfalls are protected with rip-rap to reduce flow velocity and minimize damage to the receiving waterways. In addition to the stormwater management system, sediment and erosion control measures are implemented to control runoff from construction, demolition, restoration, and site maintenance projects. Current best management practices employed for stormwater management and erosion and sediment control include installing silt fences, utilizing stone construction vehicle entrances, maintaining vegetative buffer strips, and quickly reseeding bare soils. No construction or demolition is proposed under this Action.

In Virginia, DEQ administers the program as the Virginia Pollutant Discharge Elimination System (VPDES). A VPDES permit authorizes potential or actual discharge of pollutants from a point source to surface waters under prescribed conditions and limitations. VPDES permit number. VA0024457 was issued to WFF by the DEQ on August 17, 1989, with the most recent renewal date being October 1, 2014, which expires September 30, 2019. Airfield operations are included in the WFF VPDES permit; no aircraft de-icing is conducted at the facility. Under this permit, the

Main Base maintains 11 industrial stormwater outfalls, four non-industrial stormwater outfalls, and one Federally Owned Treatment Works process outfall. Main Base wastewater is primarily collected in through lift stations and gravity sewers. The treatment works has a design capacity of approximately 1,100,000 liters (300,000 gallons) per day. The current average daily discharge to Little Mosquito Creek is approximately 200,000 to 225,000 liters (50,000 to 60,000 gallons).

The Proposed Action would not be expected to directly or indirectly impact surface water, stormwater, or wastewater on or around WFF. The Commonwealth of Virginia responded that it has no comments on impacts to Virginia's Water Protection Program or VPDES permit (refer to Appendix A). Therefore, these resources are not considered further in this analysis.

**Wetlands, Floodplains, and Coastal Zone:** Primarily tidal and, to a lesser degree, non-tidal wetlands have been identified at WFF by the National Wetlands Inventory (NWI), a nation-wide wetlands aerial imagery mapping effort conducted by the USFWS (USFWS, 2016b). Additional site-specific delineations have been conducted in support of development activities (Timmons Group, 2009a; 2009b; 2009c). Confirmed jurisdictional determinations have been obtained from the U.S. Army Corps of Engineers (USACE) for portions of the wetlands at WFF. The remaining NWI delineations are for planning purposes only and must be verified by the USACE prior to conducting activities with the potential to impact wetlands.

Approximately 153 hectares (376 acres) of wetlands, classified into five different wetland types, have been identified by the NWI at WFF Main Base. Estuarine and marine wetlands, which typically occur adjacent to deep water tidal habitats, primarily occur along Wattsville Branch, Little Mosquito Creek, and in the northeastern portion of the facility. Freshwater forested/shrub wetlands border some of the smaller drainages in the northern and eastern portions of the facility. Freshwater emergent wetlands border some of the smaller drainages in the eastern and southern portions of the facility. Finally, a small (approximately 0.2 hectares [0.5 acre]) freshwater pond has been identified in the extreme western portion of the facility. (USFWS, 2016b).

Floodplains are lowland areas located adjacent to bodies of water in which the ordinary high water level fluctuates on an annual basis. Along streams and creeks, the ordinary high water level may fluctuate as a result of a precipitation event. Tidally influenced waters may fluctuate due to spring tides or as a result of a large storm event (e.g., storm surge). When one of these events is large enough, it causes the water level to exceed the ordinary high-water mark and enter the adjacent floodplain. Floodplains are often discussed in terms of the 100-year and 500-year floodplain zones. The 100-year flood is a flood having a 1% chance of occurring in any given year. The 100-year flood is also known as the base flood. The 500-year floodplain designates the area inundated during a storm having a 0.2% chance of occurring in any given year. 2015 Flood Insurance Rate Map Community Panels 51001C0265G and 51001C0255G (FEMA, 2016) show 100-year and small pockets of 500-year floodplains along portions of the northwest, north, and northeast perimeters of the Main Base which include lower elevation areas primarily defined by the topography along Little Mosquito Creek and Jenneys Gut.

Under Section 307 of the Coastal Zone Management Act (CZMA, 16 U.S.C. 1456), Federal agency activities that have coastal effects must be consistent, to the maximum extent practicable, with federally approved enforceable policies of a state's Coastal Zone Management (CZM) Program. Virginia DEQ is the lead agency for the Virginia CZM Program. Although Federal lands are excluded from Virginia's Coastal Management Area, any activity on Federal land that has reasonably foreseeable coastal effects must be consistent with the enforceable policies of the CZM Program (**Virginia DEQ, 2016**). There are nine enforceable policies of Virginia's CZM Program that must be considered when determining Federal Consistency. These include: fisheries management, subaqueous lands management, wetlands management, dunes management, non-point source pollution control, point source pollution, control shoreline sanitation, air pollution control, and coastal lands management. Because many activities at WFF may affect the surrounding coastal areas, these actions are subject to the Federal Consistency requirements. In its July 1, 2016, Federal Consistency Determination, NASA determined that the Proposed Action would be consistent, to the maximum extent practicable, with the enforceable policies of Virginia's CZM program. In DEQ File No. 16-157F, the Commonwealth of Virginia concurred with NASA's determination (refer to Appendix A). Therefore, these resources are not considered further in this analysis.

**Geology, Topography, and Soils:** The WFF Main Base lies within three geologic units: Omar Formation - Accomack Member, Marsh and Intertidal Mud Deposits, and Joynes Neck Sand (**USGS, 2016**). Each of these units is generally composed of sedimentary deposits of sand, gravel, silt, clay, and peat. The majority of the WFF Main Base is located on a high terrace landform with elevations ranging from approximately 7.5 to 12 m (25 to 40 ft) MSL (**NASA, 2016**). The northern and eastern portions are located on low terraces and tidal marshes; elevations in these areas range from 0 to 7.5 m (0 to 25 ft) MSL. Eleven soil types occur at the Main Base (**USDA NRCS, n.d. [a]**). More than 89 percent of these soils are identified as three soil types: Bojac fine sandy loam, 0 percent to 2 percent slopes; Molena loamy sand, 6 percent to 35 percent slopes; and Chincoteague silt loam, 0 percent to 1 percent slopes, frequently flooded. The majority of the airfield occurs on Bojac fine sandy loam (**USDA NRCS, n.d. [b]**).

As no construction or demolition is proposed, the Proposed Action would not be expected to impact geology, topography, or soils on or around WFF; therefore, these resources are not considered further in this analysis.

**Environmental Restoration:** The WFF Environmental Restoration Program manages the investigation, response, and remedial activities of the historically contaminated NASA sites at WFF under the Administrative Agreement on Consent (AAOC) executed between NASA and the EPA, with NASA serving as the lead agency (**EPA, 2004**). The AAOC was issued under the authority of the Resource Conservation and Recovery Act as amended by the Hazardous and Solid Waste Amendments. By agreement, it integrates the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act, into meeting the obligations of the AAOC. The AAOC applies to Areas of



Concern (AOCs) from past releases of hazardous substances, waste and/or constituents by NASA at WFF.

Several AOCs have been identified at WFF as a result of a series of assessments conducted under the oversight of EPA and DEQ. Projects include NASA sites, former Navy sites, and petroleum-related sites contaminated from past operations. Currently, NASA has 27 AAOC CERCLA Sites (10 of which are active), 104 former Navy AOCs managed by USACE (three of which require site investigations), 22 petroleum sites (one of which is active); and 15 former Navy AOCs managed under agreement by NASA (13 of which are active). In addition to the CERCLA and petroleum sites, potential Munitions and Explosives of Concern sites were identified on Wallops Island and the WFF Visitor Center/Boat Basin area (NASA, 2016).

The Proposed Action would not be expected to impact environmental restoration sites on WFF. The Commonwealth responded that it had no comments on the Proposed Action with regards to restoration sites (refer to Appendix A). Therefore, this resource is not considered further in this analysis.

**Hazardous Materials and Waste:** The WFF Main Base is classified as a large-quantity hazardous waste generator because it has the potential to generate more than 1,000 kilograms (approximately 2,200 pounds) of hazardous waste per month. The WFF Environmental Office manages hazardous waste generation, including prevention plans, inspection, onsite transportation, storage, and off-site shipment of all hazardous waste, as well as annual training to all contractor and civil service employees who handle hazardous wastes. Management plans include a Pollution Prevention Plan that is reviewed annually and the Integrated Contingency Plan which satisfies the requirements of a Spill Prevention, Control, and Countermeasure Plan; an Oil Discharge Contingency Plan; and a Hazardous Waste Contingency Plan. WFF Main Base stores its hazardous waste in two separate temporary (less than 90-day) accumulation areas: one for used oil and one for all other hazardous waste. Hazardous waste may be stored for up to 90 days from the date of initial accumulation. Prior to reaching 90 days from the date of initial accumulation, the waste is picked up by a licensed hazardous waste transporter and taken to a licensed treatment, storage, and disposal facility. WFF biennially reports volumes generated of both hazardous and non-hazardous waste. According to the 2015 biennial report, 23,033 kilograms (50,779 pounds) of hazardous waste were generated on the Main Base (NASA, 2016). Since the Proposed Action would not be expected to generate or impact hazardous material or waste management on WFF, these resources are not considered further in this analysis. The Commonwealth of Virginia responded that it had no comments on the Proposed Action with regards to hazardous waste management (refer to Appendix A).

**Non-Ionizing Radiation:** NASA, in conjunction with its onsite tenants, has an established frequency management process to prevent EMI from disrupting or damaging EMI sensitive equipment, systems, radars, etc. throughout the facility. The WFF Test Director and the Wallops Spectrum Manager are responsible for the operational control of the radio frequency (RF) spectrum

at Wallops. These individuals perform frequency management duties in close coordination with NASA's tenants and partners, including the National Oceanic and Atmospheric Administration (NOAA) and the U. S. Navy. Frequency utilization and management policies and procedures are applicable to all activities at WFF and would not change; therefore, this resource is not considered further in this analysis.

### **3.1 DOT Act Section 4(f) Resources**

#### **3.1.1 Regulatory Context**

The DOT Act of 1966 (49 U.S.C., Subtitle I, Section 303(c)), as amended, includes a special provision—Section 4(f)—that stipulates that DOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless the following conditions apply:

1. There is no feasible and prudent alternative to the use of such land; and
2. The project includes all possible planning to minimize harm to the land resulting from such use.

Because the FAA is a DOT agency with regulatory jurisdiction over the Proposed Action, this EA also includes an evaluation of DOT Section 4(f) lands.

#### **3.1.2 Affected Environment**

Several landholdings of the Chincoteague National Wildlife Refuge (CNWR) that are Section 4(f) lands are located within the vicinity of WFF. Wallops National Wildlife Refuge lies directly east across Route 175 from the airfield. Assawoman Island, which lies immediately south of Wallops Island, and the northern portion of Metompkin Island, which lies immediately south of Assawoman Island, are owned by the USFWS. Assawoman Island is closed year round except for seasonal boat and fishing access on the southern tip. The northern part of Metompkin Island is owned by the USFWS and the southern half is owned by The Nature Conservancy; both portions are open to the public for low impact, recreational daytime activities, such as hiking, bird watching, fishing, and photography. Assateague Island, also owned by USFWS and co-managed with the National Park Service's Assateague Island National Seashore, lies to the north of Wallops Island. Assateague Island is open year-round and has been used in the past as a viewing site for WFF rocket launches. The proposed Restricted Area Airspace would overlay all of Assawoman Island and the Virginia portion of Assateague Island as well as the southern part of the Maryland portion of Assateague Island.

### **3.1.3 Environmental Consequences**

#### **3.1.3.1 No Action Alternative**

Under the No Action Alternative, WFF would conduct operational missions and activities that are within the installation's current envelope. Impacts from all operational missions and activities under the No Action Alternative, including those to Section 4(f) lands, have been covered by previous NEPA documents that are incorporated by reference into this EA. Both military and non-military entities have been sharing the use of the airspace that encompasses and surrounds R-6604A/B and VACAPES for more than 30 years. Military, commercial, and general aviation activities have established an operational co-existence consistent with federal, state, and local plans and policies and compatible with each interest's varying objectives. The No Action Alternative includes training and testing operations that are, and have been, routinely conducted in the area for decades; however, as WFF continues the testing of unproven and experimental aircraft systems, the risk to non-participating aircraft increases. Ongoing, continuing operations would continue to use R-6604A/B and offshore W-386 and would continue to overfly the Wallops NWR and CNWR, Section 4(f) lands, in accordance with FAA regulations. Although the nature and intensity of use varies over time and by an individual area, the continuing test operations represent precisely the kinds of operations for which these airspace areas were created (i.e., those that present a hazard to other aircraft). As such, implementation of the No Action Alternative would not use, and therefore would not have, an impact on Section 4(f) lands lying under R-6604A/B.

#### **3.1.3.2 Proposed Action**

The potential effects of the Proposed Action on Section 4(f) lands would be the same as those under the No Action Alternative. As the Proposed Action would not involve the use of any DOT Section 4(f) lands, these resources would not be impacted.

### **3.2 Airspace Management**

The safe, orderly, and compatible use of the nation's airspace is made possible through a system of flight rules and regulations, airspace management actions, and air traffic control procedures. The NAS is designed and managed to protect aircraft operations around most airports and along air traffic routes connecting these airports, as well as within special areas where activities such as military flight testing and training are conducted. The FAA has the overall responsibility for managing the NAS and accomplishes this through close coordination with state aviation and airport planners, military airspace managers, and other organizations. There are two categories of airspace or airspace areas: regulatory and non-regulatory. Within these two categories, there are four types of airspace: controlled, uncontrolled, special use, and other.

**Controlled airspace** has defined dimensions within which air traffic control service is provided; it is categorized into five separate classes: Classes A through E (**Figure 3-1**). These classes identify airspace that is controlled, airspace supporting airport operations, and designated airways affording

enroute transit from place to place. **Uncontrolled airspace** is designated Class G. **Special Use Airspace** has defined dimensions where activities must be confined because of their nature or where limitations may be imposed upon aircraft operations that are not a part of those activities. Certain categories of SUA within the NAS include Restricted Areas and Warning Areas. Restricted Area Airspaces separate potentially hazardous activities, such as air-to-ground training, from other aviation activities. General aviation or civilian aircraft must have permission from the controlling or using agency's ATC to enter a restricted area when it is active or "hot." A Warning Area (W-) is a military use airspace of defined dimensions, extending from 5.5 km (3 nm) outward from the coast of the U.S. that contains an activity that may be hazardous to non-participating aircraft (i.e., general and civilian aviation). **Other Airspace** is a general term referring to the majority of the remaining airspace.

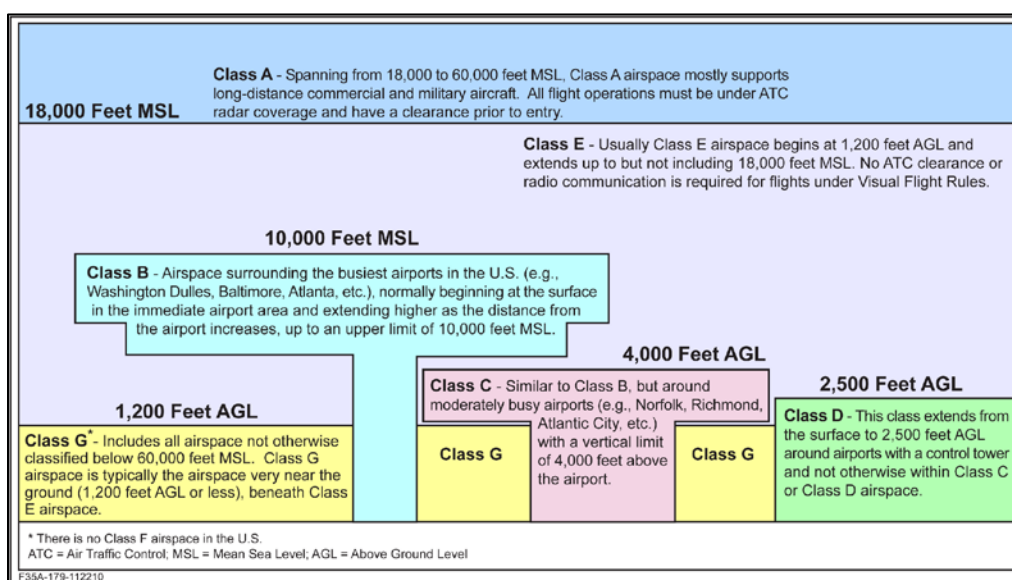


Figure 3-1: Cross Section of Airspace Classes and Their Relationships

### 3.2.1 Affected Environment

Around the Main Base airfield, WFF operates controlled Class D airspace which extends from the surface vertically to 760 m (2,500 ft) in an 8 km (5 mi) radius around the center of the airfield. Prior to entering the airspace, pilots are required to establish and maintain two-way radio communications with the WFF airport tower, which serves as the ATC facility. Aircraft operations at the airfield include takeoff, landing, or practice approach, each of which count as one operation. Outside of Class D airspace, and after ATC operating hours, the FAA assigns the responsibility for units of airspace to ARTCCs. The WFF airfield is located within the Washington, DC ARTCC.

WFF conducts testing of unproven and experimental manned and unmanned aircraft systems from the airfield. Modifications to the exterior of the aircraft system (e.g., science testing platforms and sensors) may change the flight characteristics and handling quality of the aircraft. Furthermore, NASA aircraft often have restricted maneuverability as the flight envelope is expanded. Some tests require assessment of the air-to-ground transition phase of flight (takeoff, departure,

approach, wave off, and landing), which can only be performed in the immediate vicinity of the airfield itself.

In accordance with NPR 7900.3C, an Airworthiness Certificate must be issued for each modified NASA aircraft. Typically, an Airworthiness Certificate is granted by the FAA. However, NASA, like DOD, is a self-certifying agency and must perform an airworthiness assessment for each experimental or modified aircraft. Flight test operations involving experimental or modified aircraft can be conducted within the NAS, usually with very strict limitations. A typical scenario would be for the pilot to fly the aircraft to a safe altitude within the middle of the aircraft's operating envelope and perform flight test maneuvers; expanding the operating envelope in a safe manner. The number and frequency of flights would depend on the aircraft modification. For example, the first-flight of an unproven aircraft may require a multi-year test program while a simple modification to an existing aircraft's mold line may require one or two flights.

Additionally, various DOD pilots, including those from the Navy, Air National Guard, Air Force, and Army, perform repetitive "touch-and-go" landings at the WFF airfield. The largest of these operations, the Navy's FCLP, is defined as the phase of required flight training that precedes carrier landing operations. It simulates, as nearly as practicable, the conditions encountered during carrier landing operations (USN, 2013). Military pilots need to be both current and proficient in landing qualification. The skills required to complete landings must be routinely practiced by pilots of all experience levels to maintain the requisite level of proficiency. In order to do that, pilots in both fleet and replacement squadrons conduct pilot proficiency training. It is important that lighting, flight patterns, and altitudes flown during proficiency training are as close as possible to what a pilot would encounter, during both day and nighttime conditions, so that pilots are fully prepared for DOD operations.

R-6604A/B is NASA controlled Restricted Area Airspace that overlies all of Wallops Island, the majority of the Mainland, and a portion of the Main Base runways (**Figure 3-2**). This Restricted Area Airspace is comprised of two independent airspace units, A and B, that may be activated individually or together. R-6604A/B is available 24 hours a day, 7 days a week from the surface to unlimited altitude. The northwestern portion of R-6604B presents some ambiguity since this portion overlies, approximately, the southeast portion of the WFF airport air traffic area. Normally, the WFF ATC tower is the focal point of control for all air traffic transiting the portion of R-6604B that extends into the airport air traffic area. However, the point of control for this northwest portion is relinquished to the WFF Test Director by the ATC tower operator when test range operations dictate a need to include unproven or experimental aircraft testing from the aeronautical research airport on the Main Base or rocket launches from Wallops Island. When activated, non-participating aircraft must contact the WFF Range Control Center or the Washington ARTCC to obtain clearance to transit through any portion of R-6604A/B.

FACSFAC VACAPES controls and schedules the offshore Warning Areas including W-386. As a designated ATC facility, FACSFAC is responsible for all aircraft (general, military, federal, and



commercial) operating within its area of responsibility, the scheduling of the offshore VACAPES Warning Areas and military operating areas (OPAREA), and the preparation of NOTAMs and Notices to Mariners (NOTMARs) for broadcast by the FAA and the USCG, respectively. FACSFAC VACAPES also coordinates ATC and flight monitoring. W-386 is continuously available from the surface to unlimited altitude. R-6604A/B connects to the VACAPES OPAREA offshore W-386. Close coordination between FACSFAC, NASA, and FAA ATC facilities enables effective, real-time, joint use of R-6604A/B and the VACAPES Range Complex Warning Areas. When in use by NASA or the Navy, R-6604A/B and W-386 are “hot” and the scheduled airspace blocks are closed to all non-participating users. When not in use, R-6604A/B and W-386 are “cold” and the airspace blocks are returned to the NAS allowing civilian aircraft to transit through R-6604A/B or that portion of W-386.

One 14.8 km (8 nm) wide Federal (also known as Victor [V-]) airway, V-139, borders the western edge of R-6604A/B airspace and would run along the western edge of the proposed R-6604D/E airspaces (**Figure 3-2**). On aeronautical charts, the Minimum Enroute Altitude (MEA) is listed as a number (e.g., 6,500) along the airway and is the lowest altitude between radio fixes that assures navigational signal coverage and meets obstacle clearance requirements between the fixes. The MEA for V-139 is 610 m (2,000 ft) MSL while transiting southbound and 1,200 m (4,000 ft) while traveling northbound.

General aviation pilots traveling north and south along the Delmarva Peninsula may choose to follow either the Atlantic coastline, Airway V-1, or Airway V-139. The FAA’s Performance Data Analysis and Reporting System (PDARS) is a NAS system designed as an integrated performance measurement tool that facilitates operational analysis to improve the NAS. The system consists of a dedicated network of computers located at FAA sites that use specialized software for collecting detailed air traffic management system data. A PDARS analysis was performed for air traffic between March 1, 2015, and March 1, 2016, in the survey area determined by the four coordinate points shown in **Figure 3-3**. The survey area included the portion of V-139 that is adjacent to the Proposed Action, as well as portions of the coastline and V-1. The PDARS concluded that air traffic flying in this area below an altitude of approximately 915 m (3,000 ft) MSL, averaged 18 VFR flights and 14 IFR flights per day for a total of approximately 32 flights per day (**FAA, 2016a**). According to the FAA, most general aviation traffic on V-139 occurs at altitudes between approximately 3,050 and 4,000 m (10,000 and 13,000 ft) MSL (**FAA, 2012**).



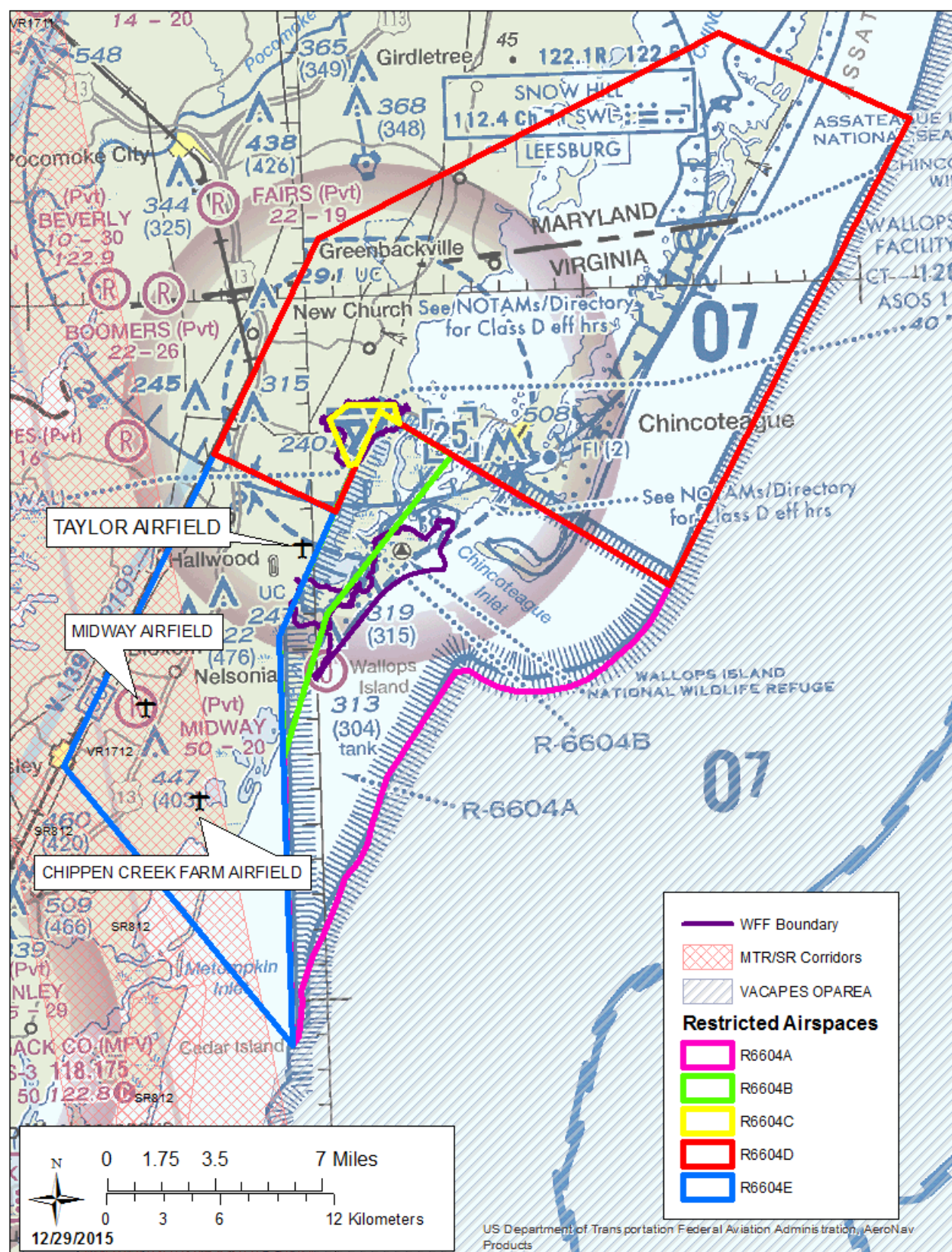


Figure 3-2: Current and Proposed Airspace Expansion





Slow Routes (SR) are similar to VRs except SRs are flown at airspeeds of 250 knots (288 mph) or less. Unlike instrument routes and VRs, SRs are not part of the MTR system and, therefore, have no directive guidance in the Aeronautical Information Manual or FAA Order JO 7610.4x, including weather minima. Weather minima for flight on SR routes are specified in corresponding service directives (although some routes may list weather minima in the Remarks/Special Operating Procedures). Also, unlike instrument routes or VRs, Flight Service Stations are not notified of a scheduled SR. SR812 crosses the southwestern corner of the proposed R-6604E airspace (**Figure 3-2**) and is bidirectional. The combat helicopter wing at Naval Air Station Norfolk, Virginia, schedules SR812 through FACSFAC VACAPES and flies the route at 150 m (500 ft) AGL approximately twice weekly out of Norfolk and Chambers Field.

Accomack County airport lies approximately 16.7 km (9 nm) off the southwestern edge of the proposed R-6604E and would be outside the FAA required 5.5 km (3 nm) airport exclusion zone. This airport averages approximately 16,060 operations per year (**AirNav, 2013**). In addition, three private airfields (Taylor, Midway, and Crippen Creek Farm) would underlie the proposed airspaces. Midway and Crippen Creek Farm airfields lie under the MTR corridor for VR-1712.

The 2015 annual airfield operations at WFF totaled 41,786 (**Ferrier, 2016**). The maximum baseline of annual airfield operations at WFF is approximately 61,000 (**USN, 2013**). Aircraft transiting through a Restricted Area Airspace or Warning Area can transit several airspace units on a single mission, each counting as one airspace operation. Thus, an aircraft passing through both R-6604A and R-6604B would constitute two airspace operations. This is true even if the units can be scheduled and used as a group; each unit is counted as a separate operation. Between October 2014 and September 2015, R-6604A was activated 324 times for a total of 5,457 hours and R-6604B was activated 246 times for a total of 2,182 hours (**Dickerson, 2016**). W-386 currently supports approximately 1,720 manned and 400 unmanned sorties, while the entire VACAPES currently supports approximately 8,200 manned and 630 unmanned flights per year (**Daugherty, 2016**). All airspace outside the U.S. territorial limit is located in international airspace. Because the offshore airspace is in international airspace, the procedures outlined in International Civil Aviation Organization Document 444, Rules of the Air and Air Traffic Services, are followed. The FAA acts as the U.S. agent for aeronautical information to the International Civil Aviation Organization and air traffic in the overwater areas is managed by the Washington ARTCC.

### **3.2.2 Environmental Consequences**

This airspace analysis considers the potential impacts on air traffic with respect to the potential for disruption of air transportation patterns and systems and changes in existing levels of airspace safety. Impacts to air traffic might occur if an action has potential to result in an increase in the number of flights that could be accommodated within established operational procedures and flight patterns; requires airspace modification; or results in an increase in air traffic that might increase collision potential between participating and non-participating civilian/general flight operations.

The primary purpose of the proposed expansion of R-6604 (i.e., R-6604C/D/E) would be to safely segregate civilian air traffic from the flight testing of unproven and experimental aerial systems, including unmanned and launched vehicle systems. NASA's expanding space program may also conduct experimental flight activities from the WFF airfield including horizontal launch vehicle takeoff, expendable launch vehicle (ELV) operations, and emergency or Return to Base for horizontal launched vehicles. Additionally, through partnerships with the DOD, operational and developmental test and evaluation of military aircraft are performed from WFF. These tests routinely require assessment of aircraft stability and control while remaining in close proximity to the airfield.

### **3.2.2.1 No Action Alternative**

Under the No Action Alternative, WFF would conduct operational missions and activities that are within the installation's current envelope. All operational missions and activities under the No Action Alternative have been covered by previous NEPA documents (refer to **Section 1.4**) that are incorporated by reference into this EA. NASA, military and civilian aircraft have been sharing the use of the airspace that encompasses R-6604A/B and VACAPES for more than 30 years. NASA, military, commercial, and general aviation activities have established an operational co-existence consistent with federal, state, and local plans and policies and compatible with each interest's varying objectives. The No Action Alternative includes training and testing operations that are, and have been, routinely conducted in the area for decades; however, as WFF continues the testing of unproven and experimental aircraft systems, the risk to non-participating aircraft increases. Ongoing, continuing operations would continue to use R-6604A/B and offshore W-386. Although the nature and intensity of use varies over time and by an individual area, the continuing experimental and modified aircraft test operations represent precisely the kinds of operations for which these areas were created (i.e., those that present a hazard to other aircraft).

Through close coordination FAA, WFF, and FACSFAC VACAPES ensure that hazardous activities are carefully scheduled to avoid conflicts with civilian activities and that safety standards are maintained while allowing the maximum amount of civilian access to overland and overwater airspace. Conditions under which general aviators or civilian pilots would need to request permission to enter Class D airspace or R-6604A/B or W-386 when active would remain unchanged. Flight monitoring at WFF ATC, WFF Range Control Center, Washington ARTCC, and FACSFAC VACAPES would continue. NOTAMs and NOTMARs for broadcast by the FAA and USCG, when needed for operations in R-6604A/B and W-386, would also remain unchanged. As such, implementation of the No Action Alternative would have no impact on airspace management resources in R-6604A/B or W-386 but would pose a continuing safety risk to non-participating aircraft.

### **3.2.2.2 Proposed Action**

No significant impacts to airspace management in the WFF or VACAPES OPAREA are anticipated with implementation of the Proposed Action. High-risk operations already occur within R-6604A/B; however, the current airspace configuration neglects a critical portion of the airspace over the Main Base runways that is required to safely conduct operations. NASA and its partners' aircraft are currently operating in the airspace proposed for expansion but the risks associated with experimental flight testing at WFF can neither be mitigated by the existing Restricted Area Airspace nor contained within the Class D airspace surrounding the WFF airfield. Therefore, this expansion is considered a risk mitigation measure that would help protect general and civilian aviation from unavoidable hazards associated with modified or experimental aircraft flight tests. This proposal would formally designate the operating airspace as restricted; thereby, permitting NASA to close the airspace to non-participating aircraft, when necessary.

The proposed lateral boundaries of R-6604C/D/E were calculated using VFR weather minimums, cloud clearances, and terminal area performance of the typical unproven and experimental aircraft profiles to be flown. The floor and ceiling altitudes represent the minimums required to accomplish the necessary test maneuvers associated with the flight events. Linked to R-6604A/B, and extending through the WFF Class D airspace, the expansion of R-6604 would fully cover the WFF airfield and would encompass the airspace in which high-risk operations originating from the airfield are currently conducted. Additionally, establishment of R-6604C/D/E would provide an added safety buffer when existing and proposed high-risk operations occur at the launch range. NASA would activate only that portion of the Restricted Area Airspace that would be required for a specific flight profile and relinquish the remaining Restricted Area Airspace to the NAS.

The R-6604 expansion would not be anticipated to impact airport operations at the Accomack County Airport as the airport is approximately 16.7 km (9 nm) off the southwestern edge of the proposed R-6604E and would be outside the FAA required 5.5 km (3 nm) airport exclusion zone. The area navigation/global positioning system (GPS) approach path for Accomack County Airport Runway 21 would run down the western edge of R-6604D/E, northeast of the airport, and would not be impacted by the infrequent activation of R-6604D/E. Furthermore, the FAA aeronautical study would formally assess the impact the final approaches to surrounding airports.

The final proposed geometry of R-6604D was reduced so as not to impact the VOR/DME-A radio navigation station for IFR approach along V-139 to Crisfield Municipal Airport and the instrument landing system approach to Runway 32 at Salisbury-Ocean City Regional Airport. Both systems use the Snow Hill navigational aid as an initial approach fix would be outside the proposed Restricted Area Airspace (**Figure 3-2**). Additionally, in accordance with the NASA test plan requirements, R-6604C/D/E would generally be activated during visual meteorological conditions. Therefore, IFR approaches into the surrounding airfields would not be impacted.

While the proposed R-6604C/D/E encompasses a larger restricted area for general and civilian aviation, the proposed airspace modifications would not significantly change the existing

relationship of the WFF's SUA with regard to V-139 operations. Moreover, the FAA aeronautical study would formally assess the impact to navigational instrumentation and approaches to surrounding airports.

The WFF ATC would be staffed whenever R-6604C/D/E are active. ATC personnel, in cooperation with the Washington ARTCC, would either instruct pilots to proceed with their proposed route or would route air traffic above the 1,065 m (3,500 ft) ceiling or away from the active section of NASA Restricted Area Airspace, providing safe separation from all NASA operations. Three private airstrips (Taylor, Midway, and Crippen Creek Farm) underlie the proposed R-6604E (**Figure 3-2**); however, for operations from either airstrip, aircraft could operate under the approximately 215 m (700 ft) AGL floor when the airspace is activated. WFF proposes to enter into Letters of Agreement with these private airport owners, as well as local aviators, to facilitate procedures (e.g. checklists, WFF ATC tower contact information, etc.) for operating in the airspace whether active or inactive. Otherwise, aircraft operating under VFR at private airfields or public airports adjacent to WFF airspace would be required to remain clear of those sections of the Restricted Area Airspace during "hot" or active periods or above/underneath the ceiling/floor of the proposed R-6604C/D/E airspace. Real-time ATIS broadcasting would allow local airports and aviators to determine if any section of airspace is active or inactive. Accordingly, no significant adverse impacts on flight operations in and around these airstrips would be anticipated.

No impact would be anticipated to small UAS operations. NASA proposes to allow small UAS to conduct flight operations in accordance with FAA Rule Part 107 within the proposed Restricted Area Airspace without a Letter of Agreement.

No impact from military aircraft traversing VR1712 would be anticipated as operations through the airspace would be coordinated with the ARTCC or ATC. There is no overall mechanism to inform military or civilian aviators that an SR is active; however, as the floor of the proposed R-6604E would be above the ceiling of SR812, no impacts would be expected.

Restricted Area Airspace would be activated individually as needed, generally during visual meteorological conditions. **Table 2-1** forecasts the predicted usage of each airspace ranging from an average of approximately 60 hours per year for R-6604E, to 180 hours per year for each of R-6604C/D, 2,642 hours per year for R-6604B, and 3,320 hours per year each for R-6604A. Activation of the proposed Restricted Area Airspaces would occur by WFF via NOTAMs issued at least 12 hours prior to the activation. Real-time ATIS broadcasting would allow local airports and aviators to determine which, if any, section of airspace is active. Based upon its Aeronautical Study, FAA could create additional waypoints necessary to assist pilots unfamiliar with the area to navigate safely around the newly expanded Restricted Area Airspace. Additionally, FAA would document the new Restricted Area Airspace on all applicable instrument approach procedures, IFR enroute low altitude charts, and VFR sectional aeronautical charts.



## **3.3 Health and Safety**

### **3.3.1 Affected Environment**

#### **3.3.1.1 Ground Safety**

Day-to-day institutional and operations activities conducted at WFF are performed in accordance with applicable NASA institutional safety and mission assurance programs and controls. Ground safety encompasses procedures and restrictions associated with hazardous systems during storage, handling, and preflight so that mission operations can be performed in a reasonable manner without undue risk to people or property. The Ground Safety Branch of the WFF Safety Office develops, plans, and promotes occupational health and safety, emergency planning, and response operations. Safety controls are established to minimize the potential hazards associated with workplace activities.

For WFF missions, the WFF Safety Office is responsible for the application of safety policies, principles, and techniques to assure the safety and integrity of the public, workforce, and infrastructure. The WFF Safety Office has the responsibility to ensure safe mission activities from preparation through operation and post-operations, both for missions originating from the WFF range or airfield and those supported off site. NASA has established mission specific ground safety guidelines in NASA Procedural Requirements (NPR 7900.3C), Aircraft Operations Management Manual. These guidelines outline ground safety requirements, airfield user and tenant/partner responsibilities, and safety data requirements to which all aircraft operators at WFF must comply. In addition, WFF requires all airfield users to submit formal documentation pertaining to their proposed operations for safety review. Project and Program Safety Plans are prepared by WFF's Ground Safety Branch and address all potential ground hazards related to a given mission in accordance with NPR 7900.3C. The Ground Safety Plans outline controls for minimizing risks to human health through the detection and elimination of hazards, safety awareness training, and enforcement of high standards of conduct and performance.

#### **3.3.1.2 Flight Safety**

In addition to complying with all applicable FAA aviation safety guidance, WFF has an established Aviation Safety Program that must be followed during all piloted aircraft and UAS operations. Defined in NPR 7900.3C, the program is overseen by an Aviation Safety Council and coordinated by an on-site ASO. Key program elements include aircraft safety training, education, and awareness; hazard and mishap reporting and investigation; and airworthiness reviews prior to changes in aircraft design or configuration. The ASO ensures that risk assessment and hazard-analysis procedures are established that address risks, hazards, and mitigation methods associated with all aircraft modifications and research flights. Under the ASO, WFF maintains an Aircraft/Airfield Pre-Mishap Plan that assigns responsibilities, provides for alternative plans, ensures optimum use of available and backup resources, and is rehearsed annually. The Pre-Mishap Plan includes: annual fire/crash/rescue personnel briefing on aircraft regularly operated at

WFF as well as specific briefings prior to the operation of any newly acquired aircraft, on rescue and emergency procedures peculiar to the aircraft; requirements for mock mishap drills that are evaluated by the ASO to ensure optimal coordination with Pre-Mishap Plans; procedures for aircraft mishaps away from the WFF airfield; and processes for notifying and working with the National Transportation Safety Board and the FAA for aircraft accidents reportable under Federal regulations.

Another important component of aviation safety at WFF is the ongoing wildlife hazard management program or BASH program. Performed on NASA's behalf by the USDA, Animal and Plant Health Inspection Service's Wildlife Services Division, the purpose of the program is to mitigate both short- and long-term hazards to aviation. Since the development of WFF's Wildlife Hazard Management Plan in 2001, USDA has maintained a full-time presence at WFF to disperse and remove birds and mammals from the airfield. BASH program objectives include reducing the attractiveness of WFF to birds and wildlife by minimizing food sources, nesting sites, and roosting habitat within the airfield clear zones. Under federal and state permits, USDA personnel regularly implement various management techniques within and adjacent to the WFF airfield, which can include: identifying and manipulating species habitat and roosts, employing techniques to disperse species, and, if deemed necessary, lethal or non-lethal removal of birds and/or mammals that pose a hazard to human health and aviation safety under appropriate Federal and state permits.

### **3.3.2 Environmental Consequences**

#### **3.3.2.1 No Action Alternative**

Under the No Action Alternative, operational missions and activities would remain at current levels within documented envelopes. Conditions under which general aviators or civilian pilots would need to request permission to enter R-6604A/B or W-386 when active would remain unchanged. Flight monitoring by the WFF ATC, WFF Range Control Center, Washington ARTCC, and FACSFAC VACAPES would continue. NOTAMs and NOTMARs for broadcast by the FAA and USCG (respectively), when needed for operations in R-6604A/B and W-386, would also remain unchanged. However, at-will entrance of civil aircraft into the unrestricted airspace over and around the WFF airfield, creates a hazard to test aircraft and personnel, general aviation aircraft and operators, the public, and civil and government infrastructure on the ground. Risks are posed from WFF pilots performing tower fly-bys for pitot-static calibration (above 250 KIAS [288 mph]); flight of unproven, experimental, or highly modified aircraft; or in-air testing of various in-flight systems and sensors. As such, implementation of the No Action Alternative would pose a greater safety risk to government and civilian pilots, the public, and infrastructure.

#### **3.3.2.2 Proposed Action**

Presently, the majority of high-risk test profiles conducted at WFF are only partially contained within established Restricted Area Airspace, R-6604A/B. These activities present a substantial

hazard to civil air traffic in the vicinity of WFF. Test aircraft are often heavily modified due to NASA program requirements. These modifications can restrict the pilot's ability to maneuver the aircraft. An unplanned, abrupt maneuver (possibly caused by intruding, non-participating air traffic) violates the "build-up" safety principal of flight test. Such an event could exceed a design limit load, place the aircraft in untested/unproven energy state (e.g., structural stress), and endanger both the test aircrew/aircraft as well as non-participating (e.g., civil) air traffic. The limited maneuverability of aircraft used to implement tests during flight assessments presents an unusual hazard to non-participating aircraft and inherently increases the risk of a midair collision when tests are conducted in co-use airspace. Additionally, NASA performs systems and sensor testing such as laser firings involving calibrations of equipment that could cause severe or permanent eye damage if a non-participating aircraft accidentally intrudes within the safe hazard distance of such tests.

Expansion of the Restricted Area Airspace would protect non-participating aircraft from the hazards associated with high-risk experimental test flight operations. According to the FAA Air Traffic Order JO 7400.8X, Special Use Airspace, dated February 10, 2015, aircraft cannot be operated within a Restricted Area Airspace without the advance permission of the using agency or controlling agency. If R-6604 is expanded, aircraft would not be prohibited from flying within the airspace but their use of the airspace would be restricted when the airspace is "hot" to ensure the safety of all aircraft during operational missions and activities. Expanding the existing airspace would safely segregate non-participating, civilian air traffic from the flight testing of unproven and experimental aerial systems, including unmanned and launched vehicle systems. Expanding the Restricted Area Airspace in a segmented fashion, would facilitate safe separation between the participating and non-participating aircraft in a minimally interfering approach to current civil air traffic; therefore the Proposed Action would result in a beneficial impact to safety.

Due to the hazardous nature of flight test operations, aircraft and pilots would often be placed in sub-optimum conditions to see and react to air traffic intrusions. Inclement weather conditions (e.g., IFR conditions) would not be suitable for NASA to conduct its flight test operations. Therefore, the majority of aircraft testing at WFF would only be conducted during daylight and VFR flight conditions such that the activation of the Restricted Area Airspace would not impact local IFR navigational aids along V-139.

### **3.4 General/Civil Aviation**

#### **3.4.1 Affected Environment**

As shown in **Table 3-2**, approximately 25,300 FAA certified pilots are registered in the District of Columbia, Delaware, Maryland, and the Virginia portion of the Eastern region (**AOPA, 2016**). Of these certified pilots, approximately 14,000 form the local general (or civil) aviation community (i.e., students, private, recreational, and sports certified pilots). Locally, general aviation pilots may choose to travel north and south along the Delmarva Peninsula following either the Atlantic

coastline, Airway V-1, or Airway V-139. Between March 1, 2015, and March 1, 2016, the air traffic in the survey area determined by the four coordinate points shown in **Figure 3-3** and flying below an altitude of approximately 915 m (3,000 ft) MSL averaged 18 VFR flights and 14 IFR flights per day for a total of approximately 32 flights per day (**FAA, 2016a**). According to the FAA, most general aviation traffic on V-139 occurs at altitudes between approximately 3,050 and 4,000 m (10,000 and 13,000 ft) MSL (**FAA, 2012**). Additionally, out of the 340 registered civil/private airfields in Virginia (**AOPA, 2016**), three airstrips, Taylor Airport (FAA ID 4VA6), Midway Airport (FAA ID VG56), and Crippen Creek Farm Airport (FAA ID 9VA3), underlie the proposed R-6604E.

**Table 3-2. FAA Certified Pilots by Certification Type**

State	Total	Students	Private	Recreation	Sport
Virginia	15,038	2,902	4,925	10	77
Maryland	8,256	1,952	2,943	4	56
Delaware	1,439	306	470	0	14
District of Columbia	566	141	248	0	7
Total	25,299	5,301	8,586	14	154

## 3.4.2 Environmental Consequences

### 3.4.2.1 No Action Alternative

Under the No Action Alternative, WFF would conduct operational missions and activities that are within the installation's current envelope. Impacts from all operational missions and activities under the No Action Alternative, including those to general aviation, have been covered by previous NEPA documents (refer to **Section 1.4**) that are incorporated by reference into this EA. NASA, military, and civilian entities have been sharing the use of the airspace that encompasses R-6604A/B and VACAPES for more than 30 years. NASA, military, commercial, and general aviation activities have established an operational co-existence consistent with federal, state, and local plans and policies and compatible with each interest's varying objectives. The No Action Alternative includes training and testing operations that are, and have been, routinely conducted in the area for decades; however, as WFF continues the testing of unproven and experimental aircraft systems, the risk to non-participating aircraft increases. Ongoing, continuing operations would continue to use R-6604A/B and offshore W-386. Although the nature and intensity of use varies over time and by an individual area, the continuing flight testing operations represent precisely the kinds of operations for which these areas were created (i.e., those that present a hazard to other aircraft).

Conditions under which general aviators or civilian pilots would need to request permission to enter R-6604A/B or W-386 when active, would remain unchanged. Flight monitoring by the WFF ATC, WFF Range Control Center, Washington ARTCC, and FACSAC VACAPES would

continue. NOTAMs and NOTMARs for broadcast by the FAA and USCG (respectively), when needed for operations in R-6604A/B and W-386, would also remain unchanged. However, there would remain a risk from pilots performing high-speed tower fly-bys for pitot-static calibration; flight of unproven, experimental, or highly-modified aircraft; or in-air testing of various in-flight systems and sensors that creates a hazard to test aircraft and personnel, general aviation aircraft and operators, the public, and civil and government infrastructure on the ground. As such, implementation of the No Action Alternative would pose a greater hazard to general aviation.

### **3.4.2.2 Proposed Action**

Under the Proposed Action, the Restricted Area Airspace would be divided into three smaller blocks such that only the airspace needed for testing would be activated at any given time. Activation of either of the R-6604C/D/E areas would be accomplished by issuing a NOTAM at least 12 hours prior to the activation. In addition, whenever R-6604C/D/E are “hot” or active, WFF ATC personnel, in cooperation with the Washington ARTCC, would route air traffic above the 1,065 m (3,500 ft) ceiling of the proposed R-6604C/D/E airspace or away from sections of NASA Restricted Area Airspace, as necessary; thereby, safely providing separation between general aviation and hazardous operations.

It is important to note that the existing WFF Class D airspace, which would wholly contain R-6604C, extends to 760 m (2,500 ft) AGL and that VFR aircraft transiting north or southbound along the coast currently fly over this ceiling versus circumnavigating the area. With the ceiling for R-6604C at 1,065 m (3,500 ft), the difference in minimum flight altitude would rise by only 305 m (1,000 ft). Moreover, most pilots currently fly V-139 at altitudes between approximately 3,050 and 4,000 m (10,000 and 13,000 ft) MSL (FAA, 2012). Therefore, the impact to the general aviation community from establishing R-6604C would be minimal.

As shown in **Figure 3-2**, three local airstrips would be underneath R-6604E. When this airspace is activated, aircraft operating from either of these three airfields could still fly under the approximately 215 m (700 ft) AGL floor. **Table 2-1**, details the anticipated usage of each section of the proposed expansion and describes R-6604E as potentially active 1.5 hours per day over 40 days per year for a total of approximately 60 hours per year. Additionally, each section of R-6604C/D would potentially be activated 1.5 hours per day over 120 days totaling 180 hours per year. Activation of either of the R-6604C/D/E areas would be accomplished by issuing a NOTAM at least 12 hours prior to the activation. During activation, standard air traffic management techniques would be employed. The airfield universal communications frequency would be monitored continuously during operations. Real-time ATIS broadcasting would allow local airports and aviators to determine if any section of airspace is active or inactive. In addition, whenever R-6604C/D/E are active, the WFF ATC personnel, in cooperation with the Washington ARTCC, would either instruct pilots to proceed with their proposed route or would route air traffic above the 1,065 m (3,500 ft) ceiling of the proposed R-6604C/D/E airspace, or away from the activated sections of NASA Restricted Area Airspace, as necessary. WFF proposes to enter into

Letters of Agreement with private airport owners and local aviators to facilitate procedures (e.g. checklists, WFF ATC tower contact information, etc.) for operating in the airspace whether active or inactive. Accordingly, no significant adverse impacts on flight operations from these airstrips or to general aviation would be anticipated.

Additionally, no impact would be anticipated to small UAS operations. NASA proposes to allow small UAS to conduct flight operations in accordance with FAA Rule Part 107 within the proposed Restricted Area Airspace without a Letter of Agreement.

### **3.5 Noise**

Sound, expressed in decibels (dB), is created by vibrations travelling through a medium such as air or water. A-weighting (dBA) provides a good approximation of the response of the average human ear and correlates well with the average person's judgment of the relative loudness of a noise event. **Table 3-3** provides typical noise levels. A sound level of 0 dBA is the approximate threshold of human hearing and is barely audible under extremely quiet conditions. By contrast, normal speech has a sound level of approximately 60 dBA. Sound levels above 100 dBA begin to be felt inside the human ear as discomfort. Sound levels between 110 and 130 dBA are felt as pain; levels exceeding 140 dBA could involve tissue damage to the ear (**Berglund and Lindvall, 1995**). The minimum change in the sound level of individual noise events that an average human ear can detect is about 3 dB. On average, a person perceives a doubling (or halving) of a sound's loudness when there is a 10 dB change in sound level.

#### **3.5.1 Noise Metrics**

Noise is often defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, diminishes the quality of the environment, or is otherwise annoying. Noise may be intermittent or continuous, steady or impulsive, and may be generated by stationary or mobile sources. The individual response to similar noise events can vary widely and is influenced by the type and characteristics of the noise source, distance between source and receptor, receptor sensitivity, and time of day. The impact of noise is described through the use of noise metrics which depend on the nature of the event and who or what is affected by the sound.

##### **3.5.1.1 Airborne Noise**

Airborne noise is represented by a variety of metrics that are used to quantify the noise environment. Maximum dBA metrics (also shown as dB  $L_{Amax}$ ) represent the maximum A-weighted sound level over a duration of an event such as an aircraft overflight. "Unweighted" (dB or dB  $L_{max}$ ) metrics represent low frequency sound levels used to analyze structural response to noise. A-weighted Sound Exposure Level (SEL) represents both the magnitude of a sound and its duration. SEL is greater than the dB  $L_{max}$  because an individual event (i.e., aircraft landing) can take several minutes while the dB  $L_{max}$  occurs instantaneously. The Day-Night Average Sound



Level (DNL) is a cumulative noise metric that accounts for all noise events over an average 24-hour period. This is often shown as dB DNL. DNL is used to predict human annoyance and community reaction to noise.

**Table 3-3: Typical Noise Levels of Familiar Noise Sources and Public Responses**

Thresholds/Noise Sources	Sound Level (dBA)	Subjective Evaluation <sup>a</sup>	Possible Effects on Humans <sup>a</sup>
Human threshold of pain	140	Deafening	Continuous exposure to levels above 70 dBA can cause hearing loss in the majority of the population
Siren at 30 m (100 ft)	130		
Jet takeoff at 61 m (200 ft)	120		
Auto horn at 1 m (3 ft)			
Chain saw or noisy snowmobile	110	Very Loud	
Lawn mower at 1 m (3 ft)	100		
Noisy motorcycle at 15 m (50 ft)			
Heavy truck at 15 m (50 ft)	90	Loud	Speech interference
Pneumatic drill at 15 m (50 ft)	80		
Busy urban street, daytime			
Normal automobile at 80 km per hour (50 mi per hour)	70	Moderate	Speech interference
Vacuum cleaner at 1 m (3 ft)			
Air conditioning unit at 6 m (20 ft)	60		Faint
Conversation at 1 m (3 ft)			
Quiet residential area	50	Very Faint	
Light auto traffic at 30 m (100 ft)			
Library or quiet home	40		
Soft whisper at 5 m (15 ft)	30		
Slight rustling of leaves	20		
Broadcasting studio	10		
Threshold of Human Hearing	0		

**Note:** <sup>a</sup>Both the subjective evaluations and the physiological responses are continuums without true threshold boundaries.

Consequently, there are overlaps among categories of response that depend on the sensitivity of the noise receivers.

**Source:** EPA, 1974.

### 3.5.1.2 Sonic Booms

A sonic boom is created when an object (e.g., jet aircraft) travels faster than the speed of sound. A sonic boom differs from other sounds in that it is impulsive and very brief, lasting less than one second. Shock waves, or sound overpressures, associated with sonic booms (boom load) have the potential to cause structural damage. Most damage claims from sonic booms are for brittle objects such as glass and plaster. There is a large degree of variability in damage experience, and the degree of damage depends on the pre-existing condition of an object or structure. Breakage data for glass, for example, spans a range of two to three orders of magnitude at a given overpressure. At 7 kiloPascals (kPa) (1 pound per square foot [psf]), the probability of a window breaking ranges from one in a billion (Sutherland, 1990) to one in a million (Hershey and Higgins, 1976). These

damage rates are associated with a combination of boom load and glass condition. At 70 kPa (10 psf), the probability of breakage is between one in a 100 and one in a 1,000 (**Haber and Nakaki, 1989**). Laboratory tests of glass have shown that properly installed window glass will not break at overpressures below 70 kPa (10 psf), even when subjected to repeated booms (**White, 1972**). Because a sonic boom is not generated until the aircraft reaches supersonic speeds, the airfield site itself (e.g., runways) does not experience a sonic boom. Rather, the boom occurs downrange of the airfield, along the flight path of the aircraft. For flight operations from WFF, sonic booms would continue to occur only in the Warning Areas over the Atlantic Ocean.

### 3.5.2 Regulatory Context

Noise in the U.S. is regulated under a number of different statutes and regulations. The Noise Control Act of 1972 as amended by the Quiet Communities Act of 1978, set forth the policy of the U.S. to promote an environment for all citizens that is free from noise that jeopardizes human health and welfare. Specific noise regulations can be imposed by Federal agencies and state and local governments. Thresholds and guidelines for airborne noise applicable to aircraft activities at WFF along with standard thresholds are provided below.

#### 3.5.2.1 Accomack County Noise Ordinance

The Accomack County Code provides noise guidance based on the different zoning districts within the county. The Code provides noise levels for both day and nighttime activities, and activities that will exceed these thresholds are generally prohibited. Article 38-35 of the Code states that the thresholds shown in **Table 3-4** do not apply to commercial or industrial operations except if noise from those operations emanates beyond the boundaries of the commercial or industrial site and affect persons who are not working onsite (**Accomack County, 2001**). No specific noise thresholds have been established for any sensitive receptors but the Code states that noise would be deemed excessive if it “unreasonably interferes with the workings of such institution or building, provided that conspicuous signs are displayed on or near such building or institution indicating that such is a school, church, hospital, clinic, or other public building” (**Accomack County, 2001**).

**Table 3-4: Accomack County Noise Guidelines by Land Use**

Zoning District	Daytime Level (dBA)	Nighttime Level (dBA)
Residential	65	55
Agricultural	65	55
Business	70	60
Industrial	70	60
Barrier Island	65	55

Source: Accomack County, 2001.

#### 3.5.2.2 Federal Interagency Committee on Urban Noise

In June 1980, an ad hoc Federal Interagency Committee on Urban Noise (FICUN) published guidelines relating DNL to compatible land uses (**FICUN, 1980**). This committee was composed

of representatives from DOD, DOT, Department of Housing and Urban Development, EPA, and the Veterans Administration. Since their issuance, Federal agencies have generally adopted these guidelines for their noise analyses. According to a study conducted by FICUN, noise levels between 65 and 70 dB DNL are compatible with outdoor recreation and public uses such as schools and churches, provided that measures are taken to provide noise level reduction of 25 dB inside the buildings (FICUN, 1980).

### 3.5.2.3 Federal Aviation Administration Significant Impact Threshold for Noise

FAA actions are subject to FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* which states that special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas, including wildlife refuges. A noise sensitive area is defined by the FAA as an area where noise interferes with normal activities associated with its use. Normally, noise sensitive areas include residential, educational, health, and religious structures and sites, parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites. FAA Order 1050.1F adds guidance that gives special consideration to the evaluation of the significance of noise impacts on noise-sensitive areas within national parks, national wildlife refuges, and historic sites including traditional cultural properties. As defined by the FAA Order 1050.1F, a significant noise impact would occur if the Proposed Action would cause noise-sensitive areas to experience an increase of 1.5 dB DNL or more at or above 65 dB DNL when compared to the No Action Alternative for the same timeframe.

### 3.5.2.4 OSHA Noise Guidance

The Occupational Safety and Health Act (OSHA) of 1970 assures safe and healthy working conditions by enforcing standards and by providing training, education, outreach, and assistance. OSHA regulates noise impacts to workers, and establishes thresholds for a safe work environment. OSHA standards (29 CFR 1910.95) are the most well documented requirements in regards to long-term human noise exposure. OSHA standard provides noise exposure limits for employees in noisy environments or workplaces. According to OSHA, an employee should not be subjected to continuous noise exceeding 90 dBA for durations lasting more than 8 hours per day (Table 3-5). As the level increases, the allowed duration of exposure decreases. The maximum limit is 115 dBA for duration of 15 minutes or less.

**Table 3-5: OSHA  
Permissible Noise Exposures**

Duration per Day (hours)	Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115
Source: OSHA, 2012.	

## 3.5.3 Affected Environment

Noise is generated on the WFF Main Base by three main sources: vehicles, equipment used during construction and demolition activities, and aircraft. Vehicular traffic and construction related activities at WFF are considered minor sources of noise. Typically, noise from vehicle operations

range from 50 dBA (for light traffic) to 80 dBA for diesel trucks. Construction noise varies greatly depending on the construction process, type and condition of equipment used, and the layout of the construction site. Overall, construction noise levels are governed primarily by the noisiest pieces of equipment (e.g., dump truck, excavator, and grader). Airfield operations account for the majority of noise generated at the Main Base.

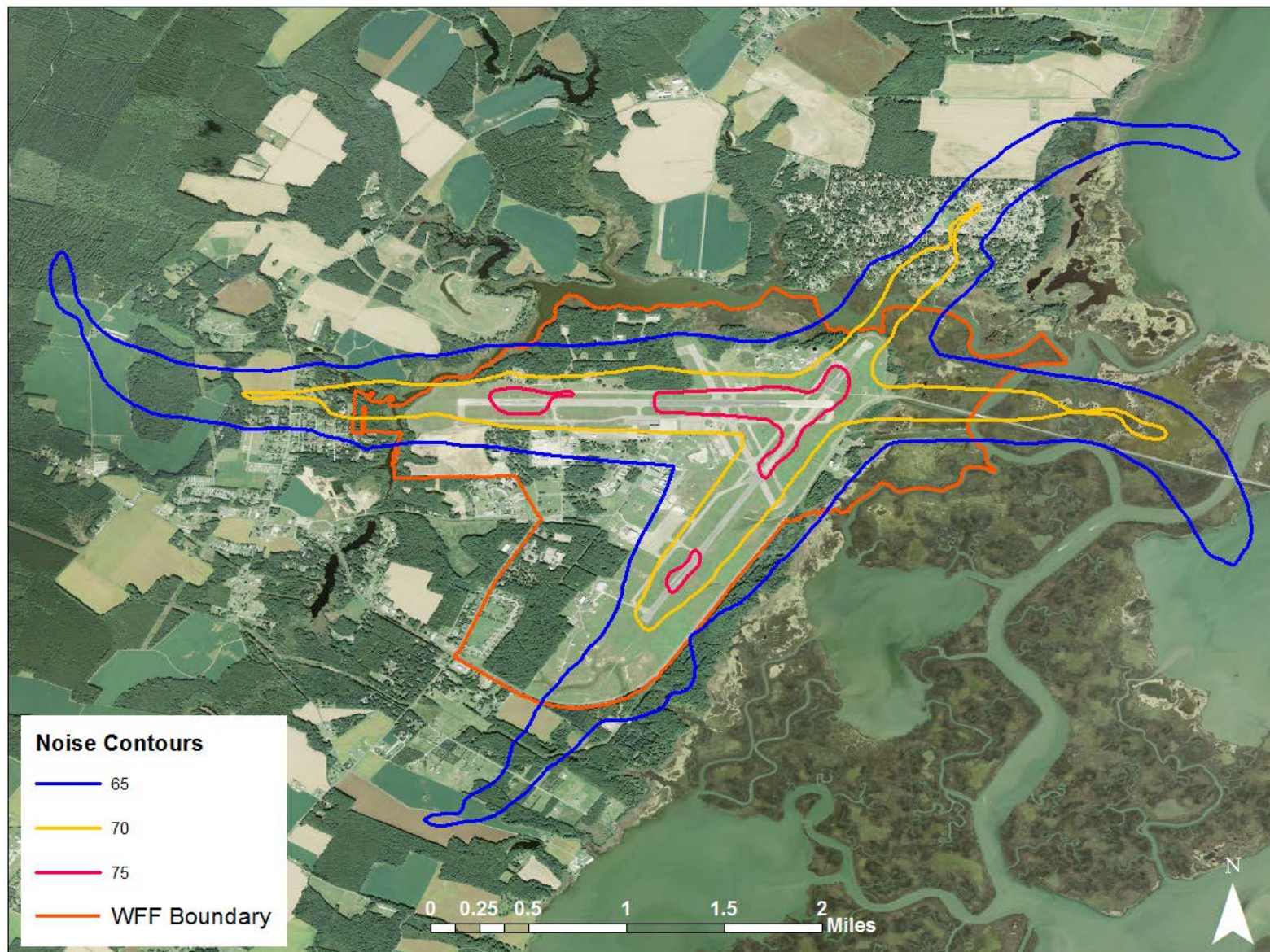
The baseline airfield operation level for WFF of 12,843 was established in 2004 using annual airfield operations data for that year with an envelope that included a 25 percent increase above that total (**NASA, 2005**). In 2013, WFF's baseline airfield operation level was increased to include an additional 45,000 annual U.S. Navy E-2/C-2 FCLP operations, for a maximum of approximately 61,000 annual airfield operations at WFF (**USN, 2013**).

During the development of the EA for the FCLP program, the Navy had revised airfield noise contours produced for WFF (**BBRC, 2012**). NOISEMAP<sup>®</sup> was used to model noise from fixed-wing aircraft. The study area for noise at WFF Main Base consisted of the area within the modeled 65 dB DNL and greater noise zones. The breakdown of annual operations at WFF Main Base used during the development of the noise contours, are listed in **Table 3-6**. Aircraft listed are the most frequent and/or loudest aircraft using the WFF Main Base, and their operation defines the noise contours at the airfield. All existing operations were modeled as acoustic day operations, as normal operating hours for the airfield are typically from 7 a.m. to 5 p.m. The model was based on the following existing runway utilization: 65 percent of the total operations on Runway 10-28 (with 40 percent of those on Runway 10 and 60 percent on Runway 28) and 35 percent of total operations on Runway 04-22 (with 30 percent on Runway 04 and 70 percent on Runway 22). Therefore, using the percentages noted by individual runway, the composite runway utilization modeled for the four runways was 11 percent for Runway 04, 24 percent for Runway 22, 26 percent for Runway 10, and 39 percent for Runway 28 (**BBRC, 2012**). Because the number of rotary-wing aircraft operating at WFF Main Base is minimal and did not increase the size of existing noise contours, the Rotorcraft Noise Model was not used.

The existing noise contours modeled for WFF Main Base are entirely located in Accomack County, Virginia (see **Figure 3-4**). The existing noise zone that is 65 dB DNL or greater covers approximately 352 hectares (800 acres) outside of the WFF Main Base property boundary. Offsite noise levels did not exceed 70 dB DNL.

According to the WFF Public Affairs Office and Navy's Region Mid Atlantic, between November 2013 and February 2016, a total of 124 noise complaint calls were received from 39 callers with 62 of these complaint calls originating from five callers; 20 of the 39 callers and 84 of the 124 noise complaint calls were from residential areas within approximately 1.5 km (0.75 nm) miles west of the approach end of Runway 10. All complaints focused on FCLP operations. The majority of calls were received by the hotline that the Navy established solely for the purpose of WFF FCLP complaint calls. The Navy has directly contacted all callers to further discuss the caller's concerns (**NASA, 2016**).





**Figure 3-4: Baseline Noise Contours around the WFF Main Base Airfield**

**Table 3-6: Typical Annual Aircraft Operations for Wallops Flight Facility Main Base**

	Departures	Arrivals	Patterns	Total
<b>Civilian Aircraft</b>				
NASA	157	157	-	314
Misc.	94	94	-	188
<b>Subtotal Civilian Operations</b>				<b>502</b>
<b>Military Aircraft</b>				
U.S. Navy	789	789	9,471	11,049
U.S. Navy E-2/C-2	703	703	43,594	45,000
Maryland Air National Guard	55	55	662	772
U.S. Air Force	48	48	574	670
Army and Coast Guard	41	41	-	82
<b>Subtotal Military Operations</b>				<b>57,573</b>
<b>Total</b>				<b>58,075</b>

Source: BRRC, 2012

### 3.5.4 Environmental Consequences

#### 3.5.4.1 No Action Alternative

Aviation and typical community noise levels near airports are not comparable to the occupational or recreational noise exposures associated with hearing loss (Wyle, 2012). Studies of aircraft noise levels associated with civilian airport activity have not definitively correlated permanent hearing impairment with aircraft activity (Newman and Beattie, 1985; von Gierke and Eldred, 1993). A 2009 DOD policy directive requires that hearing loss risk be estimated for military installations for the at-risk population, defined as the population exposed to DNL greater than or equal to 80 dB (DOD, 2009). The noise generated by aircraft operations at WFF does not reach 80 dB DNL, even on-base; offsite noise contours are less than or equal to 70dB DNL. Therefore, there would not be a significant risk for potential loss of hearing associated with expanding R-6604 at the WFF Main Base.

#### 3.5.4.1 Proposed Action

Under the Proposed Action, NASA would not change existing aircraft operation levels or aircraft types; therefore, no change in noise levels would be anticipated from the existing to the projected environment on or around the WFF Main Base, including that of residential areas, the Wallops or Chincoteague National Wildlife Refuges, or the Assateague Island National Seashore. No other sensitive receptors (e.g., educational, health, and religious or cultural structures and sites) are within the current 65 dB DNL or greater noise contour surrounding the WFF airfield. Noise levels from general aviation may be slightly lower at the ground surface as these aircraft would travel along V-139 at a slightly higher MEA near WFF. Therefore, there would be no significant impact from noise as a result of expanding R-6604.



## **4 Cumulative Effects**

The CEQ regulations for implementing NEPA define cumulative effects as the “impact on the environment which results from the incremental impact of the action(s) when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR § 1508.7). Cumulative effects are most likely to arise when a relationship or synergism exists between a Proposed Action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with, or in close proximity to, the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative effects.

Following CEQ’s 1997 guidance (**CEQ, 1997**), the scope of the Cumulative Effects Analysis (CEA) should be related to the magnitude of the environmental impacts of the proposed action. Proposed actions of limited scope and impact typically do not require as comprehensive a CEA as proposed actions that have environmental impacts over a large area. Therefore, similar to the methodology employed for deciding those resources to be considered in detail in the “affected environment” sections of this EA, only those resource areas where this Proposed Action may have incremental interactions with other actions which could potentially result in cumulative effects are considered below.

### **4.1 Present and Reasonably Foreseeable Future Actions**

#### **4.1.1 Navy Field Carrier Landing Practice (FCLP)**

In its 2013 EA, the Navy proposed to relocate part of its FCLP operations for E-2C Hawkeye, E-2D Advanced Hawkeye, and C-2A Greyhound (E-2/C-2) squadrons from Naval Station Norfolk Chambers Field to WFF. The EA analyzed the environmental consequences associated with conducting up to 45,000 annual operations E-2/C-2 FCLP operations (**USN, 2013**). With each operation being a separate action, the 45,000 operations include 20,000 FCLP passes, where one FCLP pass consists of two operations: a landing or low approach followed by an immediate takeoff or climb-out. Arrivals and departures to and from the airfield, as well as holding patterns, account for the remaining 5,000 operations. Of these, approximately 30,000 operations are conducted using a five-plane FCLP pattern and up to 15,000 operations are conducted using a three-plane pattern. These operations also include four to six temporary E-2/C-2 detachments per year, each approximately 14 days in length. In response to public comments on the Navy’s Draft EA, the two holding pattern locations were elevated to at or above 1,100 m (3,500 ft) AGL, instead of 700 m (2,000 ft). These adjustments would reduce potential aircraft noise over more populated areas.

E-2/C-2 squadrons typically conduct FCLP operations during a three-hour period and can conduct these periods up to twice per day (one day and one night period). For purposes of FCLP, night

training begins one-half hour after sunset. Because sunset occurs late during the long daylight hours of the summer months, FCLP training that begins after sunset may continue as late as 1 a.m. Depending on scheduling and training requirements, operations are conducted between 15 and 20 days in a given month, throughout the year. While the overall average annual requirement would remain the same, there are often periods of increased use followed by periods of little or no use.

#### **4.1.2 Wallops Research Park**

The 2008 EA assessed the development of the Wallops Research Park (WRP) adjacent to the Main Base on approximately 202 acres (82 hectares) of lands owned by NASA, Accomack County, and the Chincoteague Bay Field Station. Although roads and utilities have been constructed in the WRP, no tenants have developed lands in the Park yet. Upon full build out, the WRP will consist of a multi-use development dedicated to public recreational areas, educational facilities, and commercial and government space and science research (NASA, 2008).

#### **4.1.3 Navy MQ-4C Triton UAS Home Basing**

In order to enhance maritime intelligence, surveillance, and reconnaissance capabilities under the Navy's Maritime Patrol and Reconnaissance Force in the Atlantic Fleet's area of operations, the Navy proposes to establish a launch and recovery site for four home based MQ-4C Triton UAS and an operational-level maintenance hub for up to four additional aircraft undergoing maintenance actions. The WFF Main Base airfield is one of three proposed alternative sites along the east coast that are under consideration by the Navy for this action (USN, 2016).

### **4.2 Resource Analysis**

The only resources that could potentially be cumulatively affected, when considering the Proposed Action in conjunction with the present and reasonably foreseeable future actions are public health and safety and general aviation. No other resources would be cumulatively impacted by these actions.

#### **4.2.1 Public Health and Safety**

Cumulatively, implementation of the Triton UAS home basing project and aircraft tenants in WRP that may need Restricted Area Airspace would broaden the airspace usage that is under direct air traffic control for aircraft operations out of the WFF airfield. The Proposed Action would create better, safer separation between non-participating and participating operations for these actions, (e.g., potential WRP tenants with hazardous aircraft operations, originating from WFF), thereby, reducing the risk of possible in-flight mishaps and accidents. Although, expansion of NASA's Restricted Area Airspace could benefit Triton UAS operations by separating these aircraft from non-participating aircraft, it is important to note that the Proposed Action is not related to the Navy's Triton UAS proposal as Restricted Area Airspace is not required for UAS operations. Prevention of in-air collisions or close calls would increase the safety of ground-level public, employees, and infrastructure below these airspaces. The Proposed Action is also separate and

unrelated to FCLP operations; that is, this proposal would not change or modify FCLP operations at Wallops as these operations do not require Restricted Area Airspace. Therefore, when these actions are considered cumulatively, there would be positive or beneficial impacts to public health and safety through mishap avoidance and reducing potential accidents by implementing the Proposed Action.

#### **4.2.2 General Aviation**

Under the Proposed Action, the Restricted Area Airspace would be divided into three smaller blocks such that only the airspace needed for testing would be activated at any given time. Activation of either of the R-6604C/D/E areas if necessary for any action originating at the WFF airfield, including Triton UAS and potential hazardous aircraft operating WRP tenants, would be accomplished by issuing a NOTAM at least 12 hours prior to the activation. During activation, standard air traffic management techniques would be employed. The airfield universal communications frequency would be monitored continuously during operations. Real-time ATIS broadcasting would allow local airports and aviators to determine if any section of airspace is active or inactive. In addition, whenever R-6604C/D/E are active, the WFF ATC personnel, in cooperation with the Washington ARTCC, would either instruct pilots to proceed with their proposed route or would route air traffic above the 1,065 m (3,500 ft) ceiling of the proposed R-6604C/D/E airspace or away from the activated sections of NASA Restricted Area Airspace. Moreover, WFF proposes to enter into Letters of Agreement with local aviators and private airport owners to facilitate procedures (e.g. checklists, WFF ATC tower contact information, etc.) for operating in the airspace whether active or inactive.

The current and projected WFF annual baseline airfield operation (i.e., takeoffs or landings) level is approximately 61,000 operations per year. In 2015, the annual airfield operations at WFF totaled 41,786 (**Ferrier, 2016**). The Navy projects that an average of five Triton UAS flight operations would be conducted per day, or 1,825 annually. Aircraft operations from any new tenants to the WRP, when added to all other operations, would remain within NASA's baseline airfield envelope.

Between October 2014 and September 2015, the WFF Test Director activated R-6604A/B 566 times for a total of 7,625 hours (**Dickerson, 2016**). Activation activities included rocket launches, target drone operations, and UAS flights from Wallops Island. **Table 2-1**, details the anticipated usage of each section of the proposed expansion and describes R-6604E as potentially active 1.5 hours per day over 40 days per year for a total of approximately 60 hours per year. Each section of R-6604C/D would potentially be activated 1.5 hours per day over 120 days totaling 180 hours per year.

Between March 1, 2015, and March 1, 2016, the air traffic in the survey area determined by the four coordinate points shown in **Figure 3-3** and flying below an altitude of approximately 915 m (3,000 ft) MSL, averaged 18 VFR flights and 14 IFR flights per day for a total of approximately 32 flights per day (**FAA, 2016a**). According to the FAA, most general aviation traffic on V-139 occurs at altitudes between approximately 3,050 and 4,000 m (10,000 and 13,000 ft) MSL (**FAA,**

**2012).** Given the low traffic volume and average high altitude flight path along Airway V-139 for general aviation, the low number of annual hours estimated for activation of any portion of R-6604C/D/E, and the measures put in place to minimize disruption to non-participating air traffic during WFF operations, when considered cumulatively, the impact to general aviation from the Proposed Action, existing WFF aircraft operations, Triton UAS, FLCP, and potential WRP tenants would be minimal.

## **5 Other Considerations**

### **5.1 Irreversible or Irretrievable Commitments of Resources**

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and natural or cultural resources. These resources are irretrievable in that once used for a project they cannot be used for other purposes. Human labor is also considered an irretrievable resource. Another impact that would fall under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment. This EA has determined that the alternatives considered would not result in irreversible or irretrievable commitments of resources.

### **5.2 Unavoidable Adverse Impacts**

NEPA requires a description of any significant impacts resulting from implementation of a proposed action, including those that can be mitigated to a less than significant level. This EA has determined that neither the No Action Alternative nor the Proposed Action would result in any unavoidable adverse impacts.

### **5.3 Relationship between Short-Term Use of the Environment and Long-Term Productivity**

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing one development site reduces future flexibility in pursuing other options, or that using a parcel of land or other resources often eliminates the possibility of other uses at that site.

As discussed in Chapter 3, environmental consequences for both the No Action Alternative and the Proposed Action, neither would expected to result in the types of impacts that would reduce environmental productivity, affect biodiversity, or narrow the range of potential long-term beneficial uses of the environment.

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## **7 Agencies and Persons Consulted**

The following agencies and elected officials were directly notified of the availability of the Draft EA. Agency consultation is provided in Appendix A. Other organizations and individuals also provided comments on the Draft EA. Appendix C contains a summary of public comments.

<b>Name</b>	<b>Organization</b>
<b>Federal Agencies</b>	
Ms. Barbara Rudnick	EPA, Region III
Ms. Deborah Darden	NPS, Assateague Island National Seashore
Mr. Doug Crawford	NOAA, Command and Data Acquisition Station
Mr. David O'Brien	NOAA, Habitat Conservation Division
Ms. Kim Damon-Randall	NOAA, Protected Resources Division
Mr. Peter Kube	USACE, Norfolk District Regulatory Program
BMC Hank Deatrich	USCG, Station Chincoteague
Mr. Joseph Murphy	U.S. Navy, Fleet Forces Command
CDR Jeff Lock	U.S. Navy, Surface Combat Systems Center
Mr. Kevin Sloan	USFWS, Chincoteague National Wildlife Refuge
Ms. Cindy Schulz	USFWS, Virginia Field Office
<b>State Agencies</b>	
Mr. Dale Nash	Virginia Commercial Space Flight Authority
Ms. Rene Hypes	Virginia Department of Conservation and Recreation
Ms. Sheri Kattan	VDEQ, Office of Wetlands and Water Protection
Ms. Bettina Sullivan	VDEQ, Office of Environmental Impact Review
Mr. Ray Fernald	VDGIF, Environmental Services Section
Ms. Amanda Lee	VDHR, Office of Review and Compliance
Ms. Karen Duhring	Virginia Institute of Marine Science
Mr. Hank Badger	VMRC, Habitat Management Division

<b>Name</b>	<b>Organization</b>
<b>Local Government</b>	
Mr. Steven Miner	Accomack County Administration
Mr. William Tarr	Accomack County Board of Supervisors
Ms. Ronald Wolff	Accomack County Board of Supervisors
Mr. Grayson Chesser	Accomack County Board of Supervisors
Mr. Rich Morrison	Accomack County Planning
Mr. Curtis Smith	Accomack-Northampton Planning District Commission
Mr. Robert Ritter, Jr.	Town of Chincoteague, Virginia
Mayor John Tarr	Town of Chincoteague, Virginia
<b>Other Organizations</b>	
Dr. Arthur Schwarzschild	Anheuser-Busch Coastal Research Center
Ms. Kathy Phillips	Assateague Coastal Trust
Ms. Evelyn Shotwell	Chincoteague Chamber of Commerce
Mr. Denard Spady	Citizens for a Better Eastern Shore
Ms. Jean Hungiville	Eastern Shore Chamber of Commerce
Ms. Amber Parker	Chincoteague Bay Field Station
Mr. Joseph Fehrer	The Nature Conservancy
Ms. Jill Bieri	The Nature Conservancy, Virginia Coast Reserve
Mr. Randy Fox	Trails End Campground
<b>State Elected Officials</b>	
Honorable Mr. Robert Bloxom, Jr.	Virginia House of Delegates
Honorable Mr. Lynwood Lewis, Jr.	Virginia Senate

## 8 Preparers and Contributors

The following persons contributed to the preparation of this EA.

Name	Title	Areas of Responsibility in EA
<b>LJT &amp; Associates, Inc. (contractor to NASA)</b>		
Michael Bonsteel	Environmental Scientist	Figures
<b>NASA</b>		
Gerrit Everson	Airworthiness Engineer, Aircraft Office	Document Preparation: Sections 1 and 2 Document Review
Theodore (TJ) Meyer	Associate Chief, Medical and Environmental Management Division	Document Review
Shari Miller	Environmental Planning Lead, Medical and Environmental Management Division	Document Preparation: All Sections Editing, Quality Control
<b>FAA-ATO</b>		
Kristi Ashley	Environmental Protection Specialist (FORMER)	Document Review
John (Wes) Vinyard	Military Liaison Officer	Document Review



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## **Appendix A**

### **Agency Consultation**



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**From:** Miller, Shari A (WFF-200.C)[LJT AND ASSOCIATES, INC.]  
**To:** [TJ Meyer](#)  
**Bcc:**

**Subject:** Availability of Draft Environmental Assessment for the Expansion of Restricted Area Airspace R-6604C/D/E at NASA Wallops Flight Facility  
**Date:** Friday, July 01, 2016 11:07:00 AM

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*Sent on behalf of TJ Meyer, Associate Chief, Medical and Environmental Management Division*

Dear Colleagues,

On behalf of our team here at NASA Wallops Flight Facility, I am pleased to announce the availability of the subject document for your review.

Prepared in accordance with the National Environmental Policy Act (NEPA), the Draft Environmental Assessment (DEA) addresses the proposed establishment of Restricted Area Airspace (R-) at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF), located in Accomack County, Virginia. Under the Proposed Action, NASA has requested the Federal Aviation Administration (FAA) grant additional Restricted Area Airspace such that NASA can conduct experimental test profiles with a much lower risk of encountering non-participating aircraft. No changes are proposed to the types of aircraft or types and number of operations conducted within the airspace above and adjacent to WFF. The new Restricted Area Airspace would supplement WFF's existing R-6604A/B airspace. The FAA, in accordance with the National Environmental Policy Act and Chapter 32 of FAA Order JO 7400.2K, has served as a Cooperating Agency for the preparation of this DEA. In addition to the Proposed Action, the DEA evaluates the No Action Alternative.

**An electronic version of the DEA is available on the project website at:**  
[http://sites.wff.nasa.gov/code250/Establishment\\_R-6604CDE\\_DEA.html](http://sites.wff.nasa.gov/code250/Establishment_R-6604CDE_DEA.html)

The DEA is available for your review because public involvement is a very important part of the NEPA process. Should you desire, NASA respectfully requests that you review and provide written comments on the DEA by **August 1, 2016**.

Comments should be as specific as possible and should address distinct aspects of the DEA document including alternatives or the adequacy of the environmental analysis. We will consider all comments received in preparing the Final EA.

Please direct all questions, requests for copies, and comments on the DEA to Ms. Shari Miller whose contact information is provided below.

Best Regards,

Theodore (TJ) Meyer  
Associate Chief  
Medical and Environmental Management Division  
NASA Goddard Space Flight Center's Wallops Flight Facility

---

*Shari A. Miller*

LJT & Associates, Inc.  
Environmental Scientist  
NASA Wallops Flight Facility  
Wallops Island, VA 23337  
ph (757) 824-2327  
fx (757) 824-1819  
[Shari.A.Miller@nasa.gov](mailto:Shari.A.Miller@nasa.gov)  
[www.nasa.gov/wallops](http://www.nasa.gov/wallops)

National Aeronautics and  
Space Administration  
**Goddard Space Flight Center**  
**Wallops Flight Facility**  
**Wallops Island, VA 23337**



Reply to Attn of: 250.W

July 1, 2016

Valerie Fulcher  
Executive Secretary Senior  
Office of Environmental Impact Review  
P.O. Box 1105  
Richmond, VA 23218

Dear Ms. Fulcher:

In accordance with Section 307 (c) (1) of the Coastal Zone Management Act of 1972 (CZMA), the National Aeronautics and Space Administration (NASA) has prepared a Federal Consistency Determination (FCD) for the proposed expansion of the Restricted Area Airspace above and surrounding the Main Base airfield at Wallops Flight Facility, Accomack County, Virginia. In consideration of the FCD prepared concurrently with the *Draft Environmental Assessment Establishment of Restricted Area Airspace R-6604C/D/E at Wallops Flight Facility*.

The Proposed Action would require authorization from the Federal Aviation Administration's (FAA) Air Traffic Organization. To this end, NASA has assumed the role of Lead Federal Agency for CZMA compliance, ensuring that the effects of FAA's action are also considered in all project-related environmental documentation, including the enclosed FCD and Draft EA.

NASA has found that its Proposed Action would be consistent, to the maximum extent practicable, with the enforceable policies of the Virginia Coastal Zone Management Program (VCP). Accordingly, NASA respectfully requests that you review the subject FCD and provide a response within 60 days of receiving this letter. Two hard copies and two compact discs are enclosed. Additionally, the FCD is available online at:

[http://sites.wff.nasa.gov/code250/Establishment\\_R-6604CDE\\_DEA.html](http://sites.wff.nasa.gov/code250/Establishment_R-6604CDE_DEA.html).

We look forward to hearing from you. If you have any questions in the meantime, please contact me at (757) 824-1987 or Theodore.J.Meyer@nasa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Theodore J. Meyer".

Theodore J. Meyer  
Associate Chief, Medical and Environmental Management Division

2 Enclosures (both on compact disc)

- 1) FCD
- 2) Draft Supplemental EA

cc:

FAA/Mr. J. Vinyard



**From:** [Brian D Hopper - NOAA Federal](#)  
**To:** [Miller, Shari A \(WFF-200.C\)\[LJT AND ASSOCIATES, INC.\]](#)  
**Cc:** [Mark Murray-Brown - NOAA Federal](#)  
**Subject:** Draft Environmental Assessment for the Expansion of Restricted Area Airspace R-6604C/D/E at NASA Wallops Flight Facility  
**Date:** Tuesday, July 05, 2016 2:37:40 PM

---

Hi Shari,

Thanks for providing us with the opportunity to review and comment on the DEA for the Wallops Flight Facility. At this time, we do not have any comments or concerns related to ESA-listed species under our jurisdiction.

Regards,  
-Brian

--

Brian D. Hopper  
Protected Resources Division  
NOAA Fisheries  
Greater Atlantic Regional Fisheries Office  
177 Admiral Cochrane Dr.  
Annapolis, MD 21401  
(410) 573-4592  
[Brian.D.Hopper@noaa.gov](mailto:Brian.D.Hopper@noaa.gov)  
<http://www.greateratlantic.fisheries.noaa.gov/>





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029**

August 1, 2016

Mr. Theodore J. Meyer  
NASA Wallops Flight Facility  
Mailstop: 250.W  
Wallops Island, VA 23337

Re: Draft Environmental Assessment Establishment of Restricted Area Airspace 6604C/D/E at the National Aeronautics and Space Administration Goddard Space Flight Center's Wallops Flight Facility located in Accomack County, Virginia

Dear Mr. Meyer:

In accordance with the National Environmental Policy Act (NEPA) of 1969, Section 309 of the Clean Air Act and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508), the U.S. Environmental Protection Agency has reviewed the Draft Environmental Assessment (DEA) for the Establishment of Restricted Area Airspace 6604C/D/E at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF), Wallops Island, VA.

NASA, as the WFF property owner that manages the Wallops airfield and the operations that are conducted from it, is the Lead Agency. The U.S. Department of Transportation's (DOT) Federal Aviation Administration (FAA) Air Traffic Organization (ATO) has served as a Cooperating Agency because it possesses both regulatory authority and specialized expertise regarding the Proposed Action.

The purpose of NASA's request for additional Restricted Area Airspace is to protect non-participating aircraft from the dangers associated with high-risk experimental test flight operations by expanding the existing airspace in a segmented fashion, thereby facilitating safe separation between the two in a minimally impactful approach to current civil air traffic. Expanding the existing airspace is needed to safely segregate civilian air traffic from the flight testing of unproven and experimental aerial systems, including unmanned and launched vehicle systems, as well as pilot training.

The DEA evaluates the No Action Alternative and the Proposed Action which is expansion of R-6604 by adding new airspace designated R-6604C/D/E. R-6604C would incorporate the airspace from the ground surface up to, and including, 1,065 m (3,500 ft) above



ground level (AGL); would be linked to R-6604A/B; and would extend through and beyond the Class D airspace. Similarly, R-6604D would extend from 30 m (100 ft) AGL to 1,065 m (3,500 ft) AGL; whereas, R-6604E would span from 213 m (700 ft) AGL to 1,065 m (3,500 ft) AGL. Similar to existing R-6604A/B, each section of airspace could be activated separately, as needed. Activation of these areas would be accomplished by issuing a Notice to Mariners at least 12 hours prior to the activation.

EPA understands the purpose and need for the Proposed Action. However, as a result of our review of the DEA, EPA developed comments and questions that are presented in the enclosed Technical Comments document to better assess the potential impacts from the Proposed Action. Thank you for the opportunity to review this project. If you have questions regarding these comments, the staff contact for this project is Karen DelGrosso; she can be reached at 215-814-2765 or [delgrosso.karen@epa.gov](mailto:delgrosso.karen@epa.gov).

Sincerely,



Barbara Rudnick  
NEPA Team Leader  
Office of Environmental Programs

Enclosure (1)





## Technical Comments

### Proposed Action

EPA understands that there is no change in aircraft operations and that the scope of the DEA is focused only on extending the Restricted Area Airspace which is meant to protect existing operations and non-participating aircraft. In addition, page 2-6 states, "NASA and its partners' aircraft are currently operating in the airspace proposed for expansion but the risks associated with experimental flight testing at WFF can neither be mitigated by the existing Restricted Area Airspace nor contained within the Class D airspace surrounding the WFF airfield. Therefore, this expansion is considered a risk mitigation measure that would help protect general aviation and civilian aircraft from unavoidable hazards associated with experimental flight tests. This proposal would formally designate the operating airspace as restricted, thereby, permitting NASA to close the airspace to non-participating aircraft when in use."

EPA recommends that the DEA explain changes that have resulted in aircraft operating in the airspace proposed for expansion. If aircraft are operating in this airspace, had this been evaluated in a previous environmental assessment(s)? If this airspace was evaluated previously, why was the airspace not considered "restricted"? Did the operations differ from then to now? What implications brought NASA to formally extend the restricted airspace if it has already been using the proposed restricted air space? Please include data on near misses/collisions, etc. which may have been used to support the need for the Proposed Action.

The Proposed R-6604C would incorporate the airspace from the ground surface up to, and including, 1,065 m (3,500 ft) above ground level (AGL), as opposed to the R-6604D (100 ft AGL to 3,400 ft MSL) and R-6604E (700 ft AGL to 3,500 ft MSL), please describe the need for the ground surface up. What activity would require this ground level space? Is this area currently being used and in what capacity?

Will the Proposed Action change the requirement of the airstrip for the barrier island? Will there be any interaction with the runway on the barrier island? With changes in airspace at the base, can flights be transferred from the airstrip of the island to the main base? Please discuss.

Figure 2-2 (Proposed Restricted Area Airspace R-6604C/D/E and Figure 3-2 (Current and Proposed Airspace Expansion) both depict the proposed restricted airspace (R-6604 C/D/E). It is evident that the restricted airspace seems to impact more land further south and northeast of WFF. Were these areas below the proposed restricted airspace properly addressed in previous documentation? It does not seem that it would have been addressed since the DEA is requesting an expansion of the restricted airspace. How can we be sure then that the areas below have been properly considered (in particular, communities, including Environmental Justice communities). Please describe the environment (social, biological and physical) below the proposed restricted airspace. It is not enough to say that the Proposed Action will have no change to baseline



conditions or resources. In addition, it is not enough to reference the ERD section number in Table 3-1 without giving access to the ERD. If the ERD document is referenced, it should be provided as an appendix (or link) so that the reviewer can refer to the sections indicated in the table.

### **Environmental Justice**

Pages 3-4/3-5 state, “Like the 2014 Environmental Justice Implementation Plan, this EA used levels of noise as the metric to measure impacts to at risk populations....” Expansion of the Restricted Area Airspace would not change the existing Day Night Average Sound Level (DNL) of 65 decibels (dB) and above noise zone contour for the WFF airfield and, although this contour extends into Accomack County, it does not encompass either of those Block Groups. Therefore, this resource is not considered further in this analysis.” The DEA only addressed impacts to Environmental Justice (EJ) communities from the perspective of noise. It did not discuss the risk to EJ communities in the event of a collision or other mishap. Please address. A map of the Proposed Action with an overlay of EJ communities/Block Groups would be helpful.

### **Bird/Wildlife Resources**

The DEA did not address if there would be an increase (or decrease) in the risk of bird/wildlife strikes as a result of the proposed restricted airspace expansion. As noted on page 2-4 and 3-4, the DEA discusses aviation safety from the perspective of “...identifying and manipulating species habitat and roosts, employing techniques to disperse species, and, if deemed necessary, removal of birds and/or mammals that pose a hazard to human health and aviation safety under appropriate Federal and state permits.” Please discuss the risk of bird/wildlife strikes as a result of the proposed airspace expansion. What is anticipated in terms of employing techniques to manipulate and disperse species/habitat?

### **Cumulative Effects**

Of particular interest to EPA, is that if the proposed restricted airspace is approved for official NASA (and its partners) use, then this could allow for future operational access of the airspace. This may then result in not only more frequent operational uses of the airspace, but also an increase in the duration of use (per day/year) which could have a greater impact to the environment and human health. Please discuss how the Proposed Action can influence future operational activities and what activities may be on the horizon that could potentially utilize the proposed restricted airspace. Although the Cumulative Effects Section discusses the proposed Navy MQ-4C Triton UAS Home Basing operation, it does not include future NASA actions. Please assess cumulative impacts in this regard.

### **Public Involvement**

Page 2-7 states, “On January 21, 2016, the FAA announced in 81 FR 3353 the reopening of the public comment period until February 22, 2016. Two additional comments were received





during this period (Appendix A).” The DEA did not include Appendix A. In addition, “This EA incorporates responses to the public comments.” The two comments were not mentioned in the DEA. Please provide the comments and who made them. Also, please discuss how NASA engaged the public in the environmental assessment process.

### **Miscellaneous**

Page 2-4 states, “R-6604C would incorporate the airspace from the ground surface up to, and including, 1,065 m (3,500 ft) above ground level (AGL); would be linked to”. The remainder of the sentence was dropped. Please complete sentence in the Final EA.







# COMMONWEALTH of VIRGINIA

Molly Joseph Ward  
*Secretary of Natural Resources*

**Department of Historic Resources**  
2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan  
*Director*

Tel: (804) 367-2323  
Fax: (804) 367-2391  
[www.dhr.virginia.gov](http://www.dhr.virginia.gov)

August 2, 2016

Mr. Theodore J. Meyer  
Goddard Space Flight Center  
NASA Wallops Flight Facility  
Wallops Island, VA 23337

RE: Restricted Area Airspace 6604C/D/E – Environmental Assessment  
Accomack County, VA  
DHR File No. 2016-0711

Dear Mr. Meyer:

We have received for review the Environmental Assessment referenced above prepared by NASA Wallops Flight Facility. It is our opinion that this action does not have the potential to affect historic properties and is, therefore, not subject to Section 106 of the National Historic Preservation Act. The Virginia State Historic Preservation Office does not object to this project or NASA's characterization of the potential impacts.

Thank you for the opportunity to review this important document. If you have any questions at this time, please do not hesitate to contact me at [roger.kirchen@dhr.virginia.gov](mailto:roger.kirchen@dhr.virginia.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Roger W. Kirchen".

Roger W. Kirchen, Director  
Review and Compliance Division

Administrative Services  
10 Courthouse Ave.  
Petersburg, VA 23803  
Tel: (804) 862-6408  
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## COMMONWEALTH of VIRGINIA

### DEPARTMENT OF ENVIRONMENTAL QUALITY

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Molly Joseph Ward  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-4020  
1-800-592-5432

August 24, 2016

Mr. Theodore J. Meyer  
Environmental Planning  
NASA Wallops Flight Facility  
Mailstop: 250.W  
Wallops Island, Virginia 23337

RE: Draft Environmental Assessment and Federal Consistency Determination for the Establishment of Restricted Area Airspace R-6604C/D/E at Wallops Flight Facility, Accomack County, (DEQ 16-157F).

Dear Mr. Meyer:

The Commonwealth of Virginia has completed its review of the above-referenced documents. The Department of Environmental Quality is responsible for coordinating Virginia's review of federal environmental documents submitted under the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of federal consistency documents submitted pursuant to the Coastal Zone Management Act (CZMA) and providing the state's response. This is in response to the July 1, 2016 Draft Environmental Assessment (DEA) and Federal Consistency Determination (FCD) (received July 5, 2016) submitted for proposal. The following agencies participated in the review of this proposal:

Department of Environmental Quality  
Department of Conservation and Recreation  
Department of Game and Inland Fisheries  
Department of Aviation

In addition, the Department of Historic Resources, Accomack County, and the Accomack-Northampton Planning District Commission were invited to comment on the proposal.

### **Project Description**

The National Aeronautics and Space Administration (NASA) proposes to expand the Restricted Area Airspace R-6604 at NASA Goddard Space Flight Center's Wallops Flight Facility (WFF), Wallops Island, Virginia. Under the proposed action, NASA

would request the Federal Aviation Administration (FAA) grant additional Restricted Area Airspace such that NASA can conduct experimental test profiles with a much lower risk of encountering nonparticipating aircraft. No changes are proposed to the types of aircraft or types and number of operations conducted within the airspace adjacent to WFF. The new Restricted Area Airspace would supplement WFF's existing R-6604A/B airspace. NASA has applied to the FAA for the expansion of R-6604 by adding new airspace designated R-6604C/D/E to safely segregating civil air traffic from flight testing of unproven and experimental aerial systems. R-6604C would incorporate the airspace from the ground surface up to, and including, 3,500 feet above ground level (AGL); would be linked to R-6604A/B; and would extend through and beyond the Class D airspace. Similarly, R-6604D would extend from 100 feet AGL to 3,500 feet AGL; whereas, R-6604E would span from 700 feet AGL to 3,500 feet AGL. Similar to existing R-6604A/B, each section of airspace could be activated separately, as needed.

## CONCLUSION

Provided activities are performed in accordance with the recommendations which follow in the Environmental Impacts and Mitigation section of this report, the proposal described in the DEA is unlikely to have significant effects on ambient air quality, water quality, wetlands, important farmland, wildlife resources, forest resources, historic resources, and solid and hazardous wastes. It is unlikely to adversely affect species of animals, plants or insects listed by state agencies as rare, threatened, or endangered.

## ENVIRONMENTAL IMPACTS AND MITIGATION

**1. Surface Waters and Wetlands.** According to the DEA (Table 3-1, page 3-2), the proposed action would have no effect on surface water and wetland resources. Therefore, the resources were not considered for analysis in the DEA.

**1(a) Agency Jurisdiction.** The State Water Control Board promulgates Virginia's water regulations covering a variety of permits to include the Virginia Pollutant Discharge Elimination System Permit regulating point source discharges to surface waters, Virginia Pollution Abatement Permit regulating sewage sludge, storage and land application of biosolids, industrial wastes (sludge and wastewater), municipal wastewater, and animal wastes, the Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection (VWP) Permit regulating impacts to streams, wetlands, and other surface waters. The VWP permit is a state permit which governs wetlands, surface water, and surface water withdrawals and impoundments. It also serves as §401 certification of the federal Clean Water Act §404 permits for dredge and fill activities in waters of the U.S. The VWP Permit Program is under the Office of Wetlands and Stream Protection, within the DEQ Division of Water Permitting. In addition to central office staff that review and issue VWP permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities:

- Clean Water Act, §401;
- Section 404(b)(i) Guidelines Mitigation Memorandum of Agreement (2/90);
- State Water Control Law, Virginia Code section 62.1-44.15:20 *et seq.*; and
- State Water Control *Regulations*, 9 VAC 25-210-10.

**1(b) Agency Findings.** The VWP program at the DEQ Tidewater Regional Office (TRO) responded that it has no comments on the proposed action.

**1(c) CZMA Federal Consistency.** Based on the information provided the DEA and DEQ-TRO's response, the proposed action is consistent with the wetlands management and point source pollution control enforceable policies of the Virginia Coastal Zone Management (CZM) Program (see Federal Consistency Under the CZMA section below for additional information).

For additional information on surface water and wetland findings, contact DEQ-TRO, Bert Parolari at (757) 518-2166.

**2. Air Emissions.** According to the DEA (Table 3-1, page 3-2), the proposed action would result in no change in baseline conditions with respect to air quality. Therefore, the resource was not considered for analysis in the DEA.

**2(a) Agency Jurisdiction.** The DEQ Air Division, on behalf of the State Air Pollution Control Board, is responsible for developing regulations that implement Virginia's Air Pollution Control Law (Virginia Code §10.1-1300 *et seq.*). DEQ is charged with carrying out mandates of the state law and related regulations as well as Virginia's federal obligations under the Clean Air Act as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate DEQ regional office is directly responsible for the issuance of necessary permits to construct and operate all stationary sources in the region as well as monitoring emissions from these sources for compliance.

The Air Division regulates emissions of air pollutants from industries and facilities and implements programs designed to ensure that Virginia meets national air quality standards. The most common regulations associated with major State projects are:

- Open burning: 9 VAC 5-130 *et seq.*
- Fugitive dust control: 9 VAC 5-50-60 *et seq.*
- Permits for fuel-burning equipment: 9 VAC 5-80-1100 *et seq.*

**2(b) Agency Findings.** According to the DEQ Air Division, the project site is located in a designated ozone attainment area and an emission control area for the control of oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOCs).

**2(c) Recommendation.** The DEQ Air Division recommends that NASA take all reasonable precautions in its operations to limit emissions of NO<sub>x</sub> and VOCs, principally by controlling or limiting the burning of fossil fuels.

**2(d) CZMA Federal Consistency.** Based on the information provided in the DEA and the DEQ Air Division's response, the proposed action is consistent with the air pollution control enforceable policy of the Virginia CZM Program (see Federal Consistency Under the CZMA below for additional information).

For additional information regarding air comments, contact the DEQ Office of Air Data Analysis, Kotur Narasimhan at (804) 698-4415.

**3. Solid and Hazardous Wastes and Hazardous Materials.** According to the DEA (Table 3-1, page 3-2), the proposed action would result in no change in baseline conditions with respect to hazardous materials and waste. Therefore, the resource was not considered for analysis in the DEA.

**3(a) Agency Jurisdiction.** On behalf of the Virginia Waste Management Board, the DEQ Division of Land Protection and Revitalization (DEQ-DLPR) is responsible for carrying out the mandates of the Virginia Waste Management Act (Virginia Code §10.1-1400 *et seq.*), as well as meeting Virginia's federal obligations under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation Liability Act (CERCLA), commonly known as Superfund. DEQ-DLPR also administers laws and regulations on behalf of the State Water Control Board governing Petroleum Storage Tanks (Virginia Code §62.1-44.34:8 *et seq.*), including Aboveground Storage Tanks (9 VAC 25-91 *et seq.*) and Underground Storage Tanks (9 VAC 25-580 *et seq.* and 9 VAC 25-580-370 *et seq.*), also known as 'Virginia Tank Regulations', and § 62.1-44.34:14 *et seq.* which covers oil spills.

*Virginia:*

- Virginia Waste Management Act, Virginia Code § 10.1-1400 *et seq.*
- *Virginia Solid Waste Management Regulations*, 9 VAC 20-81 (9 VAC 20-81-620 applies to asbestos-containing materials)
- *Virginia Hazardous Waste Management Regulations*, 9 VAC 20-60 (9 VAC 20-60-261 applies to lead-based paints)
- *Virginia Regulations for the Transportation of Hazardous Materials*, 9 VAC 20-110.

*Federal:*

- Resource Conservation and Recovery Act, 42 U.S. Code sections 6901 *et seq.*
- U.S. Department of Transportation *Rules for Transportation of Hazardous Materials*, 49 Code of Federal Regulations, Part 107



- Applicable rules contained in Title 40, *Code of Federal Regulations*.

**3(b) Agency Findings.** The Waste Program at DEQ-TRO responded that it has no comments on the proposed action.

For additional information, contact DEQ-TRO, Melinda Woodruff at (757) 518-2174.

**4. Natural Heritage Resources.** According to the DEA (Table 3-1, page 3-2), the proposed action would result in no change in baseline conditions with respect to vegetation and wildlife resources. Therefore, the resource was not considered for analysis in the DEA.

**4(a) Agency Jurisdiction.**

- (i) The Virginia Department of Conservation and Recreation's (DCR) Division of Natural Heritage (DNH)

DNH's mission is conserving Virginia's biodiversity through inventory, protection and stewardship. The Virginia Natural Area Preserves Act (Virginia Code §10.1-209 through 217), authorizes DCR to maintain a statewide database for conservation planning and project review, protect land for the conservation of biodiversity, and protect and ecologically manage the natural heritage resources of Virginia (the habitats of rare, threatened and endangered species, significant natural communities, geologic sites, and other natural features).

- (ii) The Virginia Department of Agriculture and Consumer Services (VDACS)

The Endangered Plant and Insect Species Act of 1979 (Virginia Code Chapter 39 §3.1-1020 through 1030) authorizes VDACS to conserve, protect and manage endangered and threatened species of plants and insects. Under a Memorandum of Agreement established between VDACS and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

**4(b) Agency Findings.**

- (i) ***Natural Heritage Resources***

According to DCR-DNH, the agency's Biotics Data System documents the presence of natural heritage resources within two miles of the project area. However, due to the scope of the activity and the distance to the resources, DCR-DNH does not anticipate that this project will adversely impact natural heritage resources.



**(ii) State-listed Plant and Insect Species**

DCR-DNH finds that the proposed action will not affect any documented state-listed threatened or endangered plants or insects.

**(iii) State Natural Area Preserves**

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

**4(c) Recommendation.** Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the proposal changes and/or six months has passed before it is implemented. New and updated information is continually added to the Biotics Data System.

**5. Wildlife Resources and Protected Species.** According to the DEA (Table 3-1, page 3-2), the proposed action would result in no change in baseline conditions with respect to wildlife resources and special status species. Therefore, the resource was not considered for analysis in the DEA.

**5(a) Agency Jurisdiction.** The Virginia Department of Game and Inland Fisheries (DGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state- or federally-listed endangered or threatened species, but excluding listed insects (Virginia Code, Title 29.1). DGIF is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S. Code §661 *et seq.*) and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce or compensate for those impacts. For more information, see the DGIF website at [www.dgif.virginia.gov](http://www.dgif.virginia.gov).

**5(b) Agency Findings.** DGIF responded that it has no comments since the proposed action does not involve ground- or habitat-altering activities.

For additional information, contact DGIF, Amy Ewing at (804) 367-2211.

**6. Aviation Impacts.** According to the DEA (pages 3-21 through 3-23), no significant impacts to military, commercial and civilian airport/aircraft operations are anticipated with implementation of the proposed action.

**6(a) Agency Jurisdiction.** The Virginia Department of Aviation (DoAv) is a state agency that plans for the development of the state aviation system; promotes aviation; grants aircraft and airports licenses; and provides financial and technical assistance to

cities, towns, counties and other governmental subdivisions for the planning, development, construction and operation of airports, and other aviation facilities.

**6(b) Agency Findings.** DoAv staff discussed the proposed action with the FAA regarding the potential of the proposal to impact the Accomack County Airport. The FAA determined that the proposal would not result in an increase in instrument approach minimums to Runway 21 at the airport. Since the proposed action will not result in higher approach minimums at the airport, DoAv has no objection to the proposed expansion of the restricted airspace R-6604 as described in the DEA.

For additional information, contact DoAv, Scott Denny at (804) 236-3638.

## **FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT**

Pursuant to the Coastal Zone Management Act of 1972 (§ 1456(c)), as amended, and the federal consistency regulations implementing the CZMA (15 CFR Part 930, Subpart C, § 930.30 *et seq.*) federal actions that can have reasonably foreseeable effects on Virginia's coastal uses or resources must be conducted in a manner which is consistent, to the maximum extent practicable, with the Virginia Coastal Zone Management Program. The Virginia CZM Program is comprised of a network of programs administered by several agencies. In order to be consistent with the Virginia CZM Program, the federal agency must obtain all the applicable permits and approvals listed under the enforceable policies of the Program prior to commencing the project.

### **Federal Consistency Public Participation**

In accordance with Title 15, Code of Federal Regulations (CFR), §930.2, the public was invited to participate in the review of the FCD submitted for the proposal. Public notice of this proposed action was published in OEIR's Program Newsletter and on the DEQ website from July 8, 2016 through July 28, 2016. No public comments were received in response to the notice.

### **Federal Consistency Concurrence**

The FCD submitted for the proposal includes an analysis of project impacts on the enforceable policies of the Virginia CZM Program and a finding of consistency with the Program. Based on our review of the FCD and the comments submitted by agencies administering the enforceable policies of the Virginia CZM Program that are applicable to the proposed action, DEQ concurs that the proposal is consistent to the maximum extent practicable with the Virginia CZM Program.

In addition, DEQ recommends that NASA consider the impacts of the proposal on the advisory policies of the Virginia CZM Program (Attachment 2). Other state approvals which may apply to this project are not included in this concurrence. Therefore, the

applicant must ensure that the proposal is implemented in accordance with all applicable federal, state, and local laws and regulations.

## **REGULATORY AND COORDINATION NEEDS**

**1. Natural Heritage Resources.** Contact DCR-DNH, Rene Hypes at (804) 371-2708, to secure updated information on natural heritage resources if the scope of the project changes and/or six months passes before the project is implemented, since new and updated information is continually added to the Biotics Data System.

Thank you for the opportunity to review the Draft Environmental Assessment and Federal Consistency Determination for the Establishment of Restricted Area Airspace R-6604C/D/E at Wallops Island Flight Facility in Accomack County. Detailed comments of reviewing agencies are attached for your review. Please contact me at (804) 698-4204 or John Fisher at (804) 698-4339 for clarification of these comments.

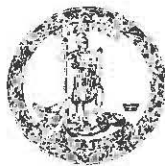
Sincerely,



Bettina Sullivan, Program Manager  
Environmental Impact Review and Long-Range  
Priorities

Enclosures

Ec: Amy Ewing, DGIF  
Robbie Rhur, DCR  
Roger Kirchen, DHR  
Steven Miner, Accomack County  
Elaine Meil, Accomack-Northampton PDC



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

Fax: 804-698-4019 - TDD (804) 698-4021

[www.deq.virginia.gov](http://www.deq.virginia.gov)

Molly Joseph Ward  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-4020  
1-800-592-5482

### Attachment 2

#### **Advisory Policies for Geographic Areas of Particular Concern**

- a. **Coastal Natural Resource Areas** - These areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas are worthy of special consideration in any planning or resources management process and include the following resources:
  - a) Wetlands
  - b) Aquatic Spawning, Nursery, and Feeding Grounds
  - c) Coastal Primary Sand Dunes
  - d) Barrier Islands
  - e) Significant Wildlife Habitat Areas
  - f) Public Recreation Areas
  - g) Sand and Gravel Resources
  - h) Underwater Historic Sites.
- b. **Coastal Natural Hazard Areas** - This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind, tidal, and storm related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are as follows:
  - i) Highly Erodible Areas
  - ii) Coastal High Hazard Areas, including flood plains.
- c. **Waterfront Development Areas** - These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are as follows:
  - i) Commercial Ports
  - ii) Commercial Fishing Piers
  - iii) Community Waterfronts

Although the management of such areas is the responsibility of local government and some regional authorities, designation of these areas as Waterfront Development Areas of Particular Concern (APC) under the VCP is encouraged.

Designation will allow the use of federal CZMA funds to be used to assist planning for such areas and the implementation of such plans. The VCP recognizes two broad classes of priority uses for waterfront development APC:

- i) water access dependent activities;
- ii) activities significantly enhanced by the waterfront location and complementary to other existing and/or planned activities in a given waterfront area.

### **Advisory Policies for Shorefront Access Planning and Protection**

- a. Virginia Public Beaches - Approximately 25 miles of public beaches are located in the cities, counties, and towns of Virginia exclusive of public beaches on state and federal land. These public shoreline areas will be maintained to allow public access to recreational resources.
- b. Virginia Outdoors Plan - Planning for coastal access is provided by the Department of Conservation and Recreation in cooperation with other state and local government agencies. The Virginia Outdoors Plan (VOP), which is published by the Department, identifies recreational facilities in the Commonwealth that provide recreational access. The VOP also serves to identify future needs of the Commonwealth in relation to the provision of recreational opportunities and shoreline access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.
- c. Parks, Natural Areas, and Wildlife Management Areas - Parks, Wildlife Management Areas, and Natural Areas are provided for the recreational pleasure of the citizens of the Commonwealth and the nation by local, state, and federal agencies. The recreational values of these areas should be protected and maintained.
- d. Waterfront Recreational Land Acquisition - It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.
- e. Waterfront Recreational Facilities - This policy applies to the provision of boat ramps, public landings, and bridges which provide water access to the citizens of the Commonwealth. These facilities shall be designed, constructed, and maintained to provide points of water access when and where practicable.
- f. Waterfront Historic Properties - The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Department of Historic Resources. Buildings, structures, and sites of historical, architectural, and/or archaeological interest are significant resources for the citizens of the Commonwealth. It is the policy of the Commonwealth and the VCP to enhance the protection of buildings, structures, and sites of historical, architectural, and archaeological significance from damage or destruction when practicable.





DEPARTMENT OF ENVIRONMENTAL QUALITY  
TIDEWATER REGIONAL OFFICE  
ENVIRONMENTAL IMPACT REVIEW COMMENTS

August 25, 2016

**PROJECT NUMBER:** 16-157F

**PROJECT TITLE:** Establishment of Restricted Area Airspace R-6604 C/D/E at Wallops Flight Facility

As Requested, TRO staff has reviewed the supplied information and has the following comments:

**Petroleum Storage Tank Cleanups:**

No comments.

**Petroleum Storage Tank Compliance/Inspections:**

No comments.

**Virginia Water Protection Permit Program (VWPP):**

No comments

**Air Permit Program :**

No air permitting issues identified.

**Water Permit Program :**

No comments.

**Waste Permit Program :**

No comments.

**Storm Water Program:**

No Comments.

The staff from the Tidewater Regional Office thanks you for the opportunity to provide comments.

Sincerely,

---

Cindy Robinson  
Environmental Specialist II  
5636 Southern Blvd.  
VA Beach, VA 23462  
(757) 518-2167  
Cindy.Robinson@deq.virginia.gov



**DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF AIR PROGRAM COORDINATION**

**ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY**

TO: John E. Fisher

DEQ - OEIA PROJECT NUMBER: DEQ #16-157F

PROJECT TYPE: ☐ STATE EA / EIR ☒ FEDERAL EA / EIS ☐ SCC

**X CONSISTENCY DETERMINATION**

PROJECT TITLE: Establishment of Restricted Area Airspace R-6604 C/D/E at Wallops Flight Facility

PROJECT SPONSOR: National Aeronautics & Space Administration

PROJECT LOCATION: ☒ OZONE ATTAINMENT  
AND EMISSION CONTROL AREA FOR NOX & VOC

REGULATORY REQUIREMENTS MAY BE APPLICABLE TO: ☒ CONSTRUCTION  
☐ OPERATION

**STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:**

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. ☐ 9 VAC 5-45-760 et seq. – Asphalt Paving operations
3. ☒ 9 VAC 5-130 et seq. – Open Burning
4. ☒ 9 VAC 5-50-60 et seq. Fugitive Dust Emissions
5. ☐ 9 VAC 5-50-130 et seq. – Odorous Emissions; Applicable to \_\_\_\_\_
6. ☐ 9 VAC 5-60-300 et seq. – Standards of Performance for Toxic Pollutants
7. ☐ 9 VAC 5-50-400 Subpart \_\_\_\_\_, Standards of Performance for New Stationary Sources, designates standards of performance for the \_\_\_\_\_
8. ☐ 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
9. ☐ 9 VAC 5-80-1605 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the \_\_\_\_\_
10. ☐ 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
11. ☐ 9 VAC 5-80-800 et seq. Of the regulations – State Operating Permits. This rule may be applicable to \_\_\_\_\_

**COMMENTS SPECIFIC TO THE PROJECT:**

All precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>).



(Kotur S. Narasimhan)  
Office of Air Data Analysis

DATE: July 18, 2016

Molly Joseph Ward  
*Secretary of Natural Resources*

Clyde E. Cristman  
*Director*



**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

Rochelle Altholz  
*Deputy Director of  
Administration and Finance*

David C. Dowling  
*Deputy Director of  
Soil and Water Conservation  
and Dam Safety*

Thomas L. Smith  
*Deputy Director of Operations*

**MEMORANDUM**

**DATE:** July 25, 2016  
**TO:** John Fisher, DEQ  
**FROM:** Roberta Rhur, Environmental Impact Review Coordinator  
**SUBJECT:** DEQ 16-157F, Establishment of Restricted Area Airspace at Wallops Flight Facility

**Division of Natural Heritage**

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources within two miles of the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Ernie Aschenbach at 804-367-2733 or [Ernie.Aschenbach@dgif.virginia.gov](mailto:Ernie.Aschenbach@dgif.virginia.gov).

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

**Fisher, John (DEQ)**

---

**From:** Ewing, Amy (DGIF)  
**Sent:** Monday, August 08, 2016 2:46 PM  
**To:** Fisher, John (DEQ)  
**Subject:** ESSLog# 37153\_16-157F\_RestrictedAirSpaceWallops\_DGIF\_AME20160808

John,

We do not feel the need to review/comment on this project, based on the lack of ground/habitat altering activities.

Amy

**Amy M. Ewing**

**Environmental Services Biologist/FWIS Biologist Supervisor**  
**Chair, Team WILD (Work, Innovate, Lead and Develop)**  
**VA Department of Game and Inland Fisheries**  
**7870 Villa Park Dr., Suite 400, PO Box 90778, Henrico, VA 23228**  
**804-367-2211 © [www.dgif.virginia.gov](http://www.dgif.virginia.gov)**

 Please consider the environment before printing this email.



RECEIVED

JUL 18 2016

DEQ-Office of Environmental  
Impact Review

# COMMONWEALTH of VIRGINIA

Randall P. Burdette  
Executive Director

*Department of Aviation*  
5702 Gulfstream Road  
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624  
FAX • (804) 236-3635

ISO 9001:2008 Certified  
IS-BAO Registered

July 13, 2016

Mr. John Fisher  
Department of Environmental Quality  
Office of Environmental Impact Review  
629 East Main Street, 6th Floor  
Richmond, Virginia 23219

RE: Establishment of Restricted Area Airspace R-6604 C/D/E at Wallops Flight Facility DEQ Project # 16-157F


Dear Mr. Fisher:

The Virginia Department of Aviation has reviewed the information package your office provided on July 6, 2016. This package detailed the proposed expansion of the restricted airspace area also known as R-6604. Following our review, staff and the Federal Aviation Administration (FAA) discussed the proposed project and the potential impacts such a project would have on the Accomack County Airport. It was determined by FAA that the proposed action would not result in the increase to any instrument approach minimums to Runway 21 at Accomack County Airport.

In light of the fact that the proposed action would not result in higher approach minimums at the Accomack County Airport, the Virginia Department of Aviation does not object to the proposed expansion of the restricted airspace R-6604 as described in the information provided.

If you have any questions regarding this matter, please contact me at (804) 236-3638.

Sincerely,

  
S. Scott Denny  
Senior Aviation Planner  
Virginia Department of Aviation

c: Barbara Haxter, MFV Airport Manager via e-mail  
Mindy Lee, FAA/WADO via e-mail  
Jeff Breeden, FAA/WADO via e-mail



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## **Appendix B**

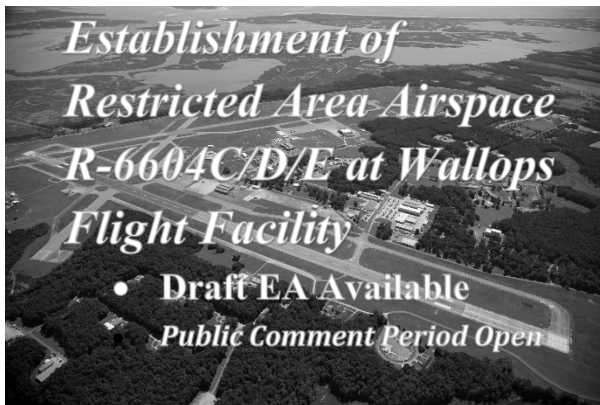
### **Public Meeting Materials**





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NASA Wallops Flight Facility is pleased to announce the availability of the Establishment of Restricted Area Airspace R-6604C/D/E at Wallops Flight Facility (WFF) Draft Environmental Assessment (Draft EA). The Draft EA evaluates the environmental effects of: expanding Restricted Area Airspace R-6604A/B surrounding NASA WFF and establishing R-6604C/D/E adjoining R-6604A/B.

The document is available for public review at the following locations:

Chincoteague Island Library, Chincoteague, VA  
Eastern Shore Public Library, Accomac, VA  
Wallops Flight Facility Visitors Center, VA Rt. 175

A limited number of hard copies of the Draft EA may be made available by contacting:

Theodore (TJ) Meyer  
NASA Wallops Flight Facility  
Mailstop: 250.W  
Wallops Island, Virginia 23337  
Phone: 757-824-1987  
e-mail: Theodore.J.Meyer@nasa.gov

The Draft EA is also available on the internet in Adobe® portable document format at:

[http://sites.wff.nasa.gov/code250/Establishment\\_R-6604CDE\\_DEA.html](http://sites.wff.nasa.gov/code250/Establishment_R-6604CDE_DEA.html).

**Comments are requested by August 1, 2016.**

Comments submitted by mail should be addressed to:

Theodore (TJ) Meyer  
NASA Wallops Flight Facility  
Mailstop 250.W  
Wallops Island, Virginia 23337

Comments may also be submitted via e-mail to:  
Theodore.J.Meyer@nasa.gov.



For additional information, please call 757-824-1579, 8 a.m. to 4:30 p.m., M-F.



# RESTRICTED AIRSPACE FAQ

## What is the restricted airspace proposal?

Wallops currently manages an area of restricted airspace (R-6604 A and B) that encompasses the launch facilities on Wallops Island from the surface to unlimited. This airspace is activated to help ensure safety during Wallops' launch operations. The proposed expanded airspace (R-6604 C, D and E) would cover parcels over the Wallops airfield (surface to 3,500 feet), a northern parcel (100 to 3,500 feet), and then a southern parcel (700 to 3,500 feet); this airspace would be activated infrequently and for short periods of time to support the facility's flight test operations. NASA manned aircraft are highly modified and often used in non-standard ways, which requires a carefully managed flight test program to assess the aircraft's airworthiness. Exclusive use of the airspace is needed to mitigate many of the risks associated with these tests.

## Will the restricted airspace effect local business aviation?

The proposed restricted airspace was designed to be minimally impactful to general and business aviation. Use of the expanded controlled airspace would be infrequent and for short periods of time only as needed (and only the amount needed) for safety during flight operations. When not in use, the airspace would be returned to local controlling agencies and opened to all air traffic. Wallops would work with local pilots on procedures to ensure local operations, such as crop dusting and mosquito spraying, could continue during times when the airspace is activated.

## Will the tower be staffed when the R-6604CDE airspace is active?

The expanded airspace would be in use for active flight operations, typically during the business week and during business hours when the tower is already staffed by Wallops' air traffic controllers. In unusual cases where scheduling could dictate a need for weekend flight testing, the tower would be staffed.

## Will this effect aerial mosquito spraying on Chincoteague Island or other areas of the community, such as Captains Cove?

No. During the short periods when the airspace is in use, Wallops would work with local aviators to ensure needs of the community are met.

## Will there be low-flying aircraft over Chincoteague Island?

No. Air traffic at Wallops would largely remain unchanged with the proposed action. The expanded airspace would help ensure the safety of the general aviation community during the infrequent periods of flight test operations at Wallops.

## Does the proposal prevent the use of unmanned aerial systems (UAS) for commercial use?

Commercial use of UAS is currently approved up to 400 feet. During the majority of time when the airspace is inactive, there would be no impact on these operations.

In the proposed southern restricted airspace parcel, there would be no impact as the area is limited to between 700 and 3,500 feet. In the northern parcel, which spans 100 to 3,500 feet, even when the airspace is active, UAS pilots can call the Wallops tower to coordinate and continue with flight operations.

## Does this proposal double Wallops' existing restricted airspace?

While the size of the airspace covers areas both north and south of the facility, it's important to consider the vertical dimension. In the southern parcel, the proposal covers 700 to 3,500 feet. In the northern parcel, the proposal covers 100 to 3,500 feet, noting that part of this parcel covers the national seashore, with existing flight restrictions from the surface to 2,000 feet. The parcel over the airfield would cover from the surface to 3,500, which is an additional 1,000 feet above that which currently exists as part of Wallops' Class-D airspace.

## Does this proposal mean jets are coming to Wallops for Field Carrier Landing Practice (FCLP)?

No. This proposed action has been in work for nearly a decade and is not related to FCLP. Wallops does not support bringing in jets as part of FCLP; logistically (maintenance, fuel consumption, etc.), it would be impractical for the Navy to conduct FCLP jet operations at Wallops.



**July 1, 2015**

**July 1, 2015**

R-6604C

R-6604D

R-6604E

R-6604A: SFC - UNLTD  
R-6604B: SFC - UNLTD

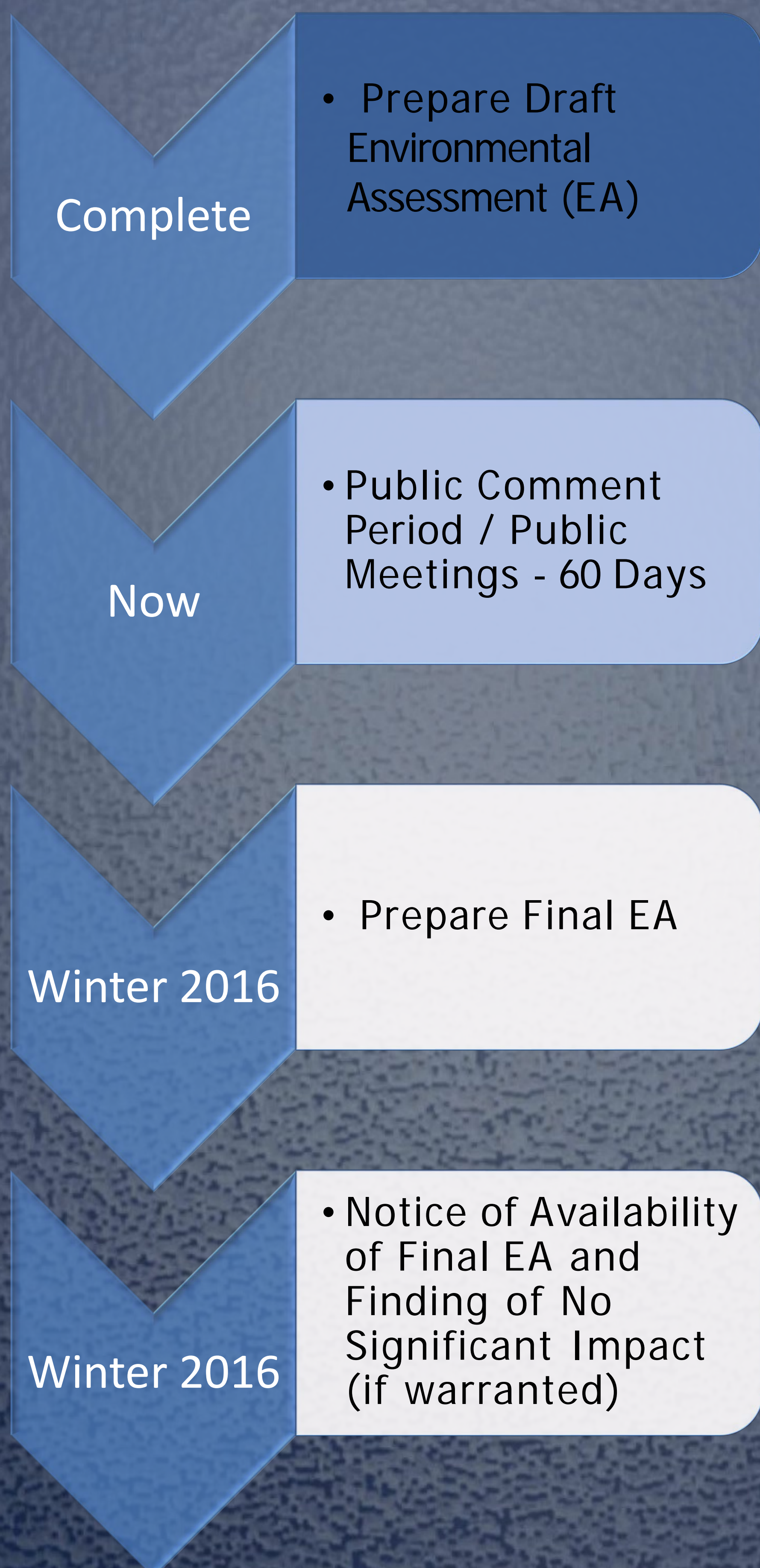
R-6604C: SFC – 3,500' MSL  
R-6604D: 100' AGL – 3,500' MSL  
R-6604E: 700' AGL – 3,500' MSL

Sectional Aeronautical Chart  
Scale 1:500,000



# ENVIRONMENTAL IMPACT ANALYSIS PROCESS

*The National Environmental Policy Act (NEPA) of 1969 guides the environmental impact analysis. NEPA established a national policy to protect the environment by requiring Federal agencies to consider the effects of their actions on the human environment prior to implementing the action and to give the public the opportunity to participate in the planning process.*



NASA is proposing to expand the facility's controlled airspace (WFF R-6604C/D/E) in support of current and potential future operations. Use of the expanded controlled airspace would be infrequent and for short periods of time, as needed for safety during flight operations. When not in use, the airspace would be returned to local controlling agencies and opened to all air traffic. The Environmental Assessment (EA) analyzes the potential effects of the project alternatives on the following resources:

- DOT Act Section 4(f) Lands
- Airspace Management
- Health and Safety
- General / Civil Aviation
- Noise

Your involvement and input are essential to the environmental impact analysis process. For additional information on public input opportunities, please visit the program's NEPA web site at:  
[http://sites.wff.nasa.gov/code250/Establishment\\_R-6604CDE\\_DEA.html](http://sites.wff.nasa.gov/code250/Establishment_R-6604CDE_DEA.html)



# COMMENT SHEET

[illegible]

**Mr. Theodore (TJ) Meyer**  
**NASA Wallops Flight Facility**  
**34200 Fulton Street**  
**Wallops Island, VA 23337**



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## **Appendix C**

### **Public Comment Summary**



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## **Public Comments Received on the Draft Environmental Assessment for the Establishment of Restricted Area Airspace R-6604C/D/E at Wallops Flight Facility**

On July 1, 2016, the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF) published its Draft Environmental Assessment (EA) on the Establishment of Restricted Airspace R-6604C/D/E at WFF, opening a 30-day public comment period on the same day. Public interest in the airspace proposal came not only from local aviators and farmers, but also from local residents living nearby the facility. To facilitate the public discussion on the proposal, NASA extended the public comment period an additional 30 days (until September 1, 2016); conducted two public meetings at the Wallops Visitors Center (August 4 and 11, 2016); met with representatives of the Eastern Shore Pilots Association, the Eastern Shore of Virginia Chamber of Commerce, and Accomack County Farm Bureau (August 3, 2016); and provided a briefing to the Accomack County Board of Supervisors (August 17, 2016).

Feedback received during the public comment period and during public meetings on the proposal is summarized in seven broad categories:

- Need for Restricted Area Airspace
- WFF air traffic “close calls”
- Rationale for airspace shape
- Environmental resources not considered in the Draft EA
- Health and safety
- General aviation
- General concerns

NASA's specific responses to the summarized comments in each category follows.

### **1.0 Comments Related to Chapter 1: Introduction and Purpose and Need for Action**

#### **1.1 Need for restricted area airspace**

**Comment Summary:** Many commenters questioned why NASA needs restricted area airspace. One commenter asked why the airspace was not considered restricted in other NEPA analyses.

**Response:** The purpose of NASA's proposal to expand the restricted area airspace is to facilitate Wallops hazardous flight test operations work. NASA manned aircraft may be highly modified and often used in nonstandard ways. These operations require a carefully managed flight test program to assess the aircraft's airworthiness prior to release for operational missions. Exclusive use airspace is a prerequisite to mitigate many of the risks associated with these tests. The fact is that we've been operating at risk for years.

It's important to note that work on the proposal to expand the restricted area airspace to mitigate the risks inherent to NASA's flight test operations began in 2008. NASA research pilots and Federal Aviation Administration (FAA) have been engaged in a long iterative process designing the proposed expanded restricted area airspace with pilot interests in mind to ensure minimal impacts to the general aviation community. The types of aircraft flown and the operational tempo of Wallops test flights would remain unchanged with the proposed action.

On the question of why the airspace wasn't considered restricted in previous NEPA analyses, WFF Aircraft Operations have been previously assessed in the 2005 Site-wide Environmental Assessment and the 2013 Field Carrier Landing Practice Environmental Assessment. Operations have not changed since those analyses. Restricted Airspace Area is granted from FAA to a controlling agency for a specific volume of airspace and for specific annual durations. For rocket launches, WFF currently controls Restricted Area Airspaces R-6604 A and B granted in 2004 by the FAA.

## **1.2 WFF Air Traffic "Close Calls"**

**Comment Summary.** Commenters requested more information on the occurrence of near misses or air traffic close calls during NASA's flight operations, including a discussion of risk in the event of a collision or other mishap.

**Response.** NASA has assumed greater risk during its flight test activities for years, which is the driving reason for the airspace proposal. During flight test operations at Wallops Flight Facility, NASA defines an air traffic "close call" as any time a non-participating aircraft penetrates protected airspace or anytime a pilot or flight crew member believes a collision hazard existed between two or more aircraft. In contrast, FAA defines a reportable "near midair collision" as "an incident associated with the operation of an aircraft in which the possibility of collision occurs as a result of proximity of less than 500 feet to another aircraft" (FAA Order 8020.11C). Wallops test flights have been paused or delayed due to Traffic Collision Alert System (TCAS) warnings as well as civil air traffic in the area. In many of these cases, it would seem as though the general aviation community didn't realize Wallops was conducting flight test activities. NASA WFF air traffic close calls during flight test are not reportable events to the FAA. The expanded restricted area airspace would help address this issue and enhance safety during test activities. Additionally, the expanded airspace would be activated only as needed to alert the general aviation community to Wallops' flight test operations and help ensure safety of both participating and non-participating aircraft.

The very low risk of a mid-air collision or mishap impacting people on the ground remains unchanged from the analyses presented in previous NEPA documents. The risk of those impacts occurring to Environmental Justice communities over other communities is *de minimis*. Impacts



from accidents are only discussed in NEPA analyses if a low probability occurrence would result in a catastrophic impact or a low impact has an extremely high probability of occurrence. The Proposed Action does not fit either of these scenarios. As discussed in the Final EA, all operations conducted under the Proposed Action would be in accordance with NASA's Aviation Safety Program.

## **2.0 Comments Related to Chapter 2: Proposed Action and Alternatives**

### **2.1 Rationale for Airspace Shape**

**Comment Summary.** Multiple comments focused on the geometry of the proposed restricted area airspace including not just the shape but also the floor and ceiling altitudes. (See Figure 2 2: Proposed Restricted Area Airspace R-6604C/D/E in the EA). A number of commenters requested the proposed R-6604D floor altitude be raised from 100 feet to various higher altitudes up to 1,500 feet. One commenter asked why the R-6604C space needed to begin at the ground surface. Additional commenters asked NASA to further justify “doubling the restricted airspace” in the area; similar requests centered around reducing the size of the proposed airspace.

**Response.** The expanded restricted area airspace initiative has been underway since 2008 as a means to enhance safety in the area during Wallops' flight test operations. Restricted airspace area would be granted from FAA to NASA as the using agency for a specific volume of airspace and for specific annual durations. NASA research pilots and FAA have been engaged in a long iterative process designing the proposed expanded restricted area airspace with pilot interests in mind to ensure minimal impacts to the general aviation community. The floor in the proposed southern parcel, R-6604E, was adjusted to 700 feet realizing there are three private airfields in that area. This altitude would allow for local aviators to transit in and out of those airfields even if the restricted area airspace is active.

The northern parcel, R-6604D, would begin at 100 feet (surface would have been preferred for safety purposes, but this is not possible as the government does not own the land). The 100-foot floor is essential to ensure all test aircraft would remain within the proposed Restricted Area Airspace while flying a normal 3-degree glideslope to touchdown.

The Wallops airfield, which would be covered by R-6604C, is already encompassed in the Class D airspace Wallops controls from surface to 2,500 feet. The proposal would only extend the airspace an additional 1,000 feet in altitude. A ground surface floor is required in this section of restricted area airspace as it encompasses the airfield itself.

It's important to note that the restricted area airspace in each section would only be used if needed to support flight test operations, estimated at a total of 180 hours spread out over a year's timeframe for sections R-6604C and R-6604D and 60 hours over a year for section R-6604E.

On the size of the restricted area airspace, it's critical to consider the all-important vertical dimension. Wallops' current restricted area airspace, R-6604A/B, which is used during NASA launch range operations, spans from the surface to unlimited altitude. The proposed new restricted area airspace would be a small fraction of that, topping off at 3,500 feet above ground level. Considering that only airspace below 40,000 feet is usable for general aviation traffic, the new expanded areas would be a very small percentage of the current restricted airspace in the area. The restricted area airspace would only be activated when needed – infrequently and for short periods of time – to ensure safety during Wallops flight test operations. Wallops air traffic controllers will work with pilots on processes and procedures to enable concurrent flight operations when the airspace is active.

## **2.2 Utilizing Other Special Use Airspace (SUA) in the Region**

**Comment Summary:** Some commenters asked NASA to explore using other SUA (e.g. Patuxent River Naval Air Station's restricted area airspace) in addition to expressing concern that the proposal relies on drone flights as justification for the expansion.

**Response:** During the design of the proposal, other types of SUA were considered but deemed insufficient for ensuring safety during NASA's flight test operations. Use of nearby existing SUA would not be an option due to technical requirements (co-use airspace versus exclusive-use airspace; travel distance to the SUA) as well as the dynamic nature of NASA's flight test program. For example, the vast majority of the Patuxent River restricted areas are not exclusive use. R-4006 and R-4008 (the largest sections) are co-use where many aircraft operate in the same piece of sky. Use of this airspace would not mitigate the risks of a midair collision during certain flight test maneuvers. The parts of the Patuxent River restricted area airspace that can be scheduled as exclusive use are in high demand and used for priority Department of Defense events such as Joint Strike Fighter Testing. It would be highly unlikely that NASA would be granted access to this airspace, especially with our dynamic operations schedule.

The proposal was written to safe guard both NASA's pilots and the general aviation community.

### **3.0 Comments Related to Chapter 3: Affected Environment and Environmental Consequences**

#### **3.1 Resources not considered in the Draft EA**

**Comment Summary:** A few commenters remarked that the draft EA did not adequately address such resources as socioeconomic impacts, risk of bird/wildlife strikes as a result of the proposed expansion, and potential electromagnetic interference. Additionally, a commenter asked if the proposed action had any impact to the unmanned aircraft system (UAS) airstrip on Wallops Island.

**Response:** Land and Water Uses, Culture Resources, Population, Employment and Income, and Environmental Justice were not analyzed in detail for this proposed action due to no change in baseline conditions and/or no effect on the resource. Flight activity would largely remain unchanged by the proposed action, and with the administrative procedures for accessing the restricted area airspace – even during times when the airspace is active – no significant socioeconomic impacts are expected by the proposed action.

On the risk posed by potential bird or wildlife strikes, the U.S. Department of Agriculture’s Wild Services (WS) program at Wallops holds the following depredation permits: U.S. Fish and Wildlife Service (USFWS) Migratory Bird Depredation Permit at Airports; VDGIF Kill Permit; USFWS Eagle Depredation Permit (Harassment Only). Under these permits, WS may use a variety of lethal and non-lethal methods to disperse wildlife. Areas are planted with non-seeding or small-seeding grasses and are mown to 6-10 inches in height. Only non-edible ornamentals are planted. Swales areas are kept clear to prevent standing water. The perimeter is fenced to prevent deer from entering the airfield. Wallops works on agreements with property owners within 10,000 feet of the airfield to limit development of water reservoirs, parks and golf courses with artificial ponds, waste handling facilities, animal processing facilities, and landfills.

Regarding possible socioeconomic consequences of property owners wanting to erect tall structures on their private or corporate property (e.g., cell towers, grain storage, etc.), current local, state, and federal regulations and requirements would remain unchanged. Accomack County has established zoning ordinances and permitting procedures in Chapter 106 of the Accomack County Code for all structures proposed in the County. Regardless of zoning district, the County limits public building (e.g., schools, churches, hospitals) heights to 20 m (65 ft) AGL, residential buildings at 10.7 to 13.7 m (35 to 45 ft) AGL, towers and collateral structures to 30.5 m (100ft) AGL, and any structure or vegetation below the height of the FAA Part 77 airfield surfaces (defined in Title 14 Code of Federal Regulations [CFR] Part 77) surrounding the WFF airfield. The Commonwealth, through § 15.2-2204 of the Code of Virginia further regulates changes in land use that involve any parcel of land located within 915 m (3,000 ft) of the boundary of WFF. Federally, the FAA has additional permitting regulations in 14 CFR 77.9 for any structure in the

U. S. proposed to be 60 m (200 ft) AGL or greater. These regulations have been established regardless of overlying airspace designation. NASA's proposal would not change the implementation of these existing requirements.

### **3.2 Health and Safety**

#### **3.2.1 Safety during operations in the proposed airspace**

**Comment Summary.** Safety concerns focused around the potential for increased drone flights as being hazardous, safety for local residents during test flights, and concern over the ability to fly instrumented flight rules (IFR) approaches through the active or inactive restricted area airspace.

**Response:** On concerns over IFR approaches, it's extremely unlikely that Wallops would be using the expanded airspace at times when flights could only occur in IFR conditions. Such inclement weather conditions would not be suitable for NASA to conduct its flight test operations. Furthermore, the FAA Aeronautical Study would formally assess the impact to instrument approaches to surrounding airfields.

On concerns over drone or UAS flights, the proposal was written to safe guard both NASA's pilots and the general aviation community. Additionally, in accordance with mitigation and monitoring measures stated in the 2012 North Wallops UAS Airstrip EA (accessible at [http://sites.wff.nasa.gov/code250/UAS\\_FEA.html](http://sites.wff.nasa.gov/code250/UAS_FEA.html)), NASA is currently constructing a UAS airstrip on the north end of Wallops Island. As stated in Section 2.1.1 Expansion of R-6604, of that EA, "It is noteworthy that this alternative would not have been the definitive solution, as it would have only rectified the potential for the encroachment of non-participating aircraft during UAS operations. ... For UAS missions flown on the Main Base, significant flight restrictions would be required to protect people and property; some UAS would be denied because the risk is too great, even with restrictions."

#### **3.2.2 Electromagnetic Interference (EMI)**

**Comment Summary.** Safety concerns focused around the potential for EMI emitted from manned or unmanned aircraft to damage EMI sensitive equipment and radars around the WFF airfield.

**Response:** On EMI, nothing in the proposal would change the established Wallops frequency management process. Generally speaking about frequency management, the WFF Test Director and the Wallops Spectrum Manager are responsible for the operational control of the radio frequency (RF) spectrum at Wallops. These individuals perform their frequency management duties in close coordination with NASA's tenants and partners, including NOAA and the U.S. Navy. Frequency utilization and management policies and procedures applicable to all range user

activities at Wallops are detailed in the Wallops Flight Facility Frequency Utilization Management Handbook, accessible at [http://sites.wff.nasa.gov/multimedia/docs/WFF\\_FUM04.pdf](http://sites.wff.nasa.gov/multimedia/docs/WFF_FUM04.pdf).

### **3.3 General Aviation**

#### **3.3.1 Comments relative to use of the National Airspace System**

**Comment Summary.** Some comments were more specific to approaches to various airports as well as use of the Victor Airway 139 (V-139). For example, one commenter stated concern that the proposal would impact the V-139 airway as well as an instrument approach to Accomack County Airport Runway 21. Another commenter expressed concern that the northwest corner of the proposed R-6604D space would impact an approach to Runway 32 at Salisbury Ocean City/Wicomico Regional Airport.

**Response.** As part of the review process for this proposed restricted area airspace expansion, the FAA will conduct an Aeronautical Study to evaluate the impacts of the proposal on the national airspace system. As part of that study, the FAA may modify approaches or recommend mitigation measures to minimize any impact from NASA's proposal.

#### **3.3.2 Ability for local users to access the airspace**

**Comment Summary.** A number of comments were focused around the ability to conduct aerial applications (e.g., crop dusting, mosquito spraying) and commercial drone flights within the proposed restricted area airspace. Some commenters expressed concern over the ability to use their private property to erect cell towers or grain elevators greater than 100 feet tall in the proposed northern parcel.

**Response.** The proposed restricted area airspace was designed to be minimally impactful to general and business aviation. Use of the expanded controlled airspace would be infrequent and for short periods of time only as needed for safety during flight operations. When not in use, the airspace would be returned to local controlling agencies and opened to all air traffic. During the infrequent times when the airspace is active, local aviators could work with the Wallops Air Traffic Control tower to safely conduct operations as normal. Wallops would also work with the FAA on other processes, such as issuing letters of agreement to local aviators, to facilitate aerial applications and commercial drone operations even during times with the restricted area airspace is activated. NASA's proposal would not change existing processes for erecting structures, such as cell towers or grain elevators.



### **3.3.3 Administrative recommendations**

**Comment Summary.** Commenters asked if NASA would staff the Wallops Air Traffic Control tower during times when the restricted area airspace is active. Others also asked that NASA work with local pilots to establish concise procedures and checklists for general aviation use of R-6604 along with procedures for communicating airspace status to local aviators. A commenter also asked if Wallops, versus PAX River, could be the controlling agency for all restricted area airspace in R-6604.

**Response.** Based on the feedback received, NASA Wallops would adopt the following administrative processes and procedures for operating the expanded restricted area airspace:

- When R-6604C/D/E is active to conduct flight test operations, Wallops would staff the air traffic control tower
- Wallops would form a working group for local airspace users to establish processes and procedures for operating in the airspace whether it's active or inactive, e.g. checklists, letters of agreement, tower contact information
- Wallops would broadcast restricted area airspace status real-time over its Automatic Terminal Information Service (ATIS) system
- Notices to Airmen (NOTAMs) would be issued 12 hours prior to any activation of the airspace

On the question of controlling agency, the FAA has stated that Washington Center will serve as the controlling agency, which is a change from the previous process that included shared responsibility from both Patuxent River Approach and Washington Center. Having one controlling agency in Washington Center, along with the administrative measures Wallops would implement, should streamline pilots' ability to ascertain airspace status.

## **4.0 Comments Relating to Chapter 4: Cumulative Effects**

### **4.1 General concerns expressed**

**Comment Summary.** This category of comments is meant to be a catch all for the remaining comments received. For example, some asked if the proposed expansion meant that jets would be permanently based at Wallops in the future. A few commenters were concerned that the restricted area airspace would be active more often if the Navy decided to base Triton Unmanned Aerial Systems at Wallops. Another stated that low-level flights should not occur over Chincoteague. A number of residents expressed concern over noise from the Navy's ongoing Field Carrier Landing Practice (FCLP) flights. One commenter asked how the Proposed Action relates to the UAS airstrip under construction on the north end of Wallops Island and how the proposed action could influence

future operations and what they may be. Additional commenters asked that NASA increase general communication with the public.

**Response.** Wallops has supported occasional transient jet traffic in the past, e.g., F-18 pilots conducting practice approaches as a means to remain current in pilot qualifications. That support to finite, discrete operations will continue. However, NASA does not support permanent, non-NASA jet aircraft activity at Wallops. Regarding FCLP, the airspace proposal would be separate and unrelated to FCLP operations, i.e., nothing in the proposal would change or modify FCLP operations at Wallops. It's also important to note that the airspace proposal is not related to the Navy's Triton program; the Navy has previously stated that expanded restricted area airspace is not a requirement for the program. The air traffic in the future would largely remain unchanged from that which exists today; the proposal is focused on ensuring the safety of NASA flight test activities and the safety of the general aviation community when these activities are underway. Reasonably foreseeable future operations are discussed in the draft EA in Chapter 4, Cumulative Effects Analysis.

Regarding the Wallops Island UAS airstrip, the purpose and need stated in the 2012 North Wallops UAS Airstrip EA (NASA, 2012 accessible at [http://sites.wff.nasa.gov/code250/UAS\\_FEA.html](http://sites.wff.nasa.gov/code250/UAS_FEA.html)), has not changed. As stated in Section 2.1.1 Expansion of R-6604, of that EA, "It is noteworthy that this alternative would not have been the definitive solution, as it would have only rectified the potential for the encroachment of non-participating aircraft during UAS operations. To meet NASA flight safety criteria (to protect persons and property on the ground) for unproven UAS transiting to or from the Main Base airfield, Route 175 would be closed for up to 20 to 30 minutes for each takeoff and landing. Closure of Route 175 is undesirable to NASA as this road is the only means of vehicular ingress and egress to Chincoteague, Accomack County's largest town. Additionally, the Main Base runways are adjacent to the NASA and NOAA workforce as well as various high value assets (e.g., NASA telemetry assets and NOAA tracking assets). For UAS missions flown on the Main Base, significant flight restrictions would be required to protect people and property; some UAS would be denied because the risk is too great, even with restrictions. Likewise, several of the approach paths to the runways overfly housing developments, all within 0.8 km (0.5 mi) mile of the end of the respective runways. This places additional restrictions on UAS take-off and landing options."

In addition to current communications activities, such as the Wallops website and social media accounts, NASA plans to conduct quarterly public information sessions as a means to provide updates on current and future missions.

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## **Appendix D**

### **Federal Aviation Administration's Notice of Proposed Rule Making and Comments Received**



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**DEPARTMENT OF ENERGY****10 CFR Part 430****[Docket Number EERE-2014-BT-STD-0048]****RIN 1904-AD37****Appliance Standards and Rulemaking Federal Advisory Committee: Notice of Open Meetings for the Central Air Conditioners and Heat Pumps Working Group To Negotiate a Notice of Proposed Rulemaking (NPR) for Energy Conservation Standards****AGENCY:** Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy.**ACTION:** Notice of public meetings.**SUMMARY:** The U.S. Department of Energy (DOE) announces public meetings and webinars for the Central Air Conditioners and Heat Pumps Working Group. The Federal Advisory Committee Act requires that agencies publish notice of an advisory committee meeting in the **Federal Register**.**DATES:** See **SUPPLEMENTARY INFORMATION** section for meeting dates.**ADDRESSES:** The meetings will be held at U.S. Department of Energy, Forrestal Building, Room 8E-089, 1000 Independence Avenue SW., Washington, DC 20585 unless otherwise stated.**FOR FURTHER INFORMATION CONTACT:** Mr. Tony Bouza, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies, EE-5B, 1000 Independence Avenue SW., Washington, DC 20585-0121. Telephone: (202) 586-4653. Email: [asrac@ee.doe.gov](mailto:asrac@ee.doe.gov).Mr. Michael Kido, U.S. Department of Energy, Office of the General Counsel, GC-33, 1000 Independence Avenue SW., Washington, DC 20585-0121. Telephone: (202) 586-9496. Email: [michael.kido@hq.doe.gov](mailto:michael.kido@hq.doe.gov)**SUPPLEMENTARY INFORMATION:** DOE will host public meetings and webinars on the below dates from 9:00 a.m. to 5:00 p.m. Meetings will be hosted at DOE's Forrestal Building, Room 8E-089, unless otherwise stated.

- September 10, 2015 at AHRI, 2111 Wilson Blvd. #500, Arlington, VA 22201
- September 28–29, 2015; September 29 will be at 950 L'Enfant Plaza, 8th Floor SW., Washington, DC.
- October 13–14, 2015
- October 26–27, 2015
- November 18–19, 2015
- December 1–2, 2015

- December 16–17, 2015

The purpose of the September 10, 2015 meeting will be to discuss the content included in the proposed 10 CFR part 430, subpart B, App M1 and can be viewed here: <http://energy.gov/eere/buildings/downloads/issuance-2015-08-21-energy-conservation-program-test-procedures-central-a-0>.

**Meeting Address**

U.S. Department of Energy, Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585, Room 8E-089. Individuals will also have the opportunity to participate by webinar. To register for the webinar and receive call-in information, please register [https://www1.eere.energy.gov/buildings/appliance\\_standards/rulemaking.aspx/ruleid/72](https://www1.eere.energy.gov/buildings/appliance_standards/rulemaking.aspx/ruleid/72).

Members of the public are welcome to observe the business of the meeting and, if time allows, may make oral statements during the specified period for public comment. To attend the meeting and/or to make oral statements regarding any of the items on the agenda, email [asrac@ee.doe.gov](mailto:asrac@ee.doe.gov). In the email, please indicate your name, organization (if appropriate), citizenship, and contact information. Please note that foreign nationals participating in the public meeting are subject to advance security screening procedures which require advance notice prior to attendance at the public meeting. If a foreign national wishes to participate in the public meeting, please inform DOE as soon as possible by contacting Ms. Regina Washington at (202) 586-1214 or by email: [Regina.Washington@ee.doe.gov](mailto:Regina.Washington@ee.doe.gov) so that the necessary procedures can be completed. Anyone attending the meeting will be required to present a government photo identification, such as a passport, driver's license, or government identification. Due to the required security screening upon entry, individuals attending should arrive early to allow for the extra time needed.

Due to the REAL ID Act implemented by the Department of Homeland Security (DHS) recent changes have been made regarding ID requirements for individuals wishing to enter Federal buildings from specific states and U.S. territories. Driver's licenses from the following states or territory will not be accepted for building entry and one of the alternate forms of ID listed below will be required.

DHS has determined that regular driver's licenses (and ID cards) from the following jurisdictions are not acceptable for entry into DOE facilities: Alaska, Louisiana, New York, American Samoa, Maine, Oklahoma, Arizona,

Massachusetts, Washington, and Minnesota.

Acceptable alternate forms of Photo-ID include: U.S. Passport or Passport Card; an Enhanced Driver's License or Enhanced ID-Card issued by the states of Minnesota, New York or Washington (Enhanced licenses issued by these states are clearly marked Enhanced or Enhanced Driver's License); A military ID or other Federal government issued Photo-ID card.

**Docket:** The docket is available for review at [www.regulations.gov](http://www.regulations.gov), including **Federal Register** notices, public meeting attendee lists and transcripts, comments, and other supporting documents/materials. All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) index. However, not all documents listed in the index may be publicly available, such as information that is exempt from public disclosure.

Issued in Washington, DC, on September 3, 2015.

**Kathleen B. Hogan,**

*Deputy Assistant Secretary for Energy Efficiency, Energy Efficiency and Renewable Energy.*

[FR Doc. 2015-22840 Filed 9-9-15; 8:45 am]

**BILLING CODE 6450-01-P****DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 73****[Docket No. FAA-2015-2776; Airspace Docket No. 15-AEA-5]****RIN 2120-AA66****Proposed Amendment and Establishment of Restricted Areas; Chincoteague Inlet, VA****AGENCY:** Federal Aviation Administration (FAA), DOT.**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This action proposes to expand the restricted airspace at Chincoteague Inlet, VA, to support the National Aeronautics and Space Administration's (NASA) Wallops Island Flight Facility requirements. The proposed expansion would add 3 new restricted areas, designated R-6604C, R-6604D, and R-6604E. Additionally, a minor change would be made to 2 points in the boundary of existing area R-6604A to match the updated 3 nautical mile (NM) line from the shoreline of the United States (U.S.) as provided by the National Oceanic and Atmospheric Administration (NOAA).

**DATES:** Comments must be received on or before October 26, 2015.

**ADDRESSES:** Send comments on this proposal to the U.S. Department of Transportation, Docket Operations, M-30, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001; telephone: (202) 366-9826. You must identify FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5, at the beginning of your comments. You may also submit comments through the Internet at <http://www.regulations.gov>. Comments on environmental and land use aspects to should be directed to: NASA Wallops Flight Facility, Attn: Ms. Shari Silbert, Wallops Island, VA 23337; telephone: 757-824-2327.

**FOR FURTHER INFORMATION CONTACT:** Paul Gallant, Airspace Policy and Regulations Group, Office of Airspace Services, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone: (202) 267-8783.

**SUPPLEMENTARY INFORMATION:**

**Authority for This Rulemaking**

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace. This regulation is within the scope of that authority as it would establish restricted airspace at Wallops Island, VA, to contain activities deemed hazardous to nonparticipating aircraft.

**Comments Invited**

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, aeronautical, economic, environmental, and energy-related aspects of the proposal.

Communications should identify both docket numbers (FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5) and be submitted in triplicate to

the Docket Management System (see **ADDRESSES** section for address and phone number). You may also submit comments through the Internet at <http://www.regulations.gov>.

Persons wishing the FAA to acknowledge receipt of their comments on this action must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5." The postcard will be date/time stamped and returned to the commenter.

All communications received on or before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this action may be changed in light of comments received. All comments submitted will be available for examination in the public docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

**Availability of NPRMs**

An electronic copy of this document may be downloaded through the Internet at <http://www.regulations.gov>.

You may review the public docket containing the proposal, any comments received and any final disposition in person at the Dockets Office (see **ADDRESSES** section for address and phone number) between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. An informal docket may also be examined during normal business hours at the office of the Operations Support Group, Eastern Service Center, Federal Aviation Administration, 1701 Columbia Ave., College Park, GA 30337.

Persons interested in being placed on a mailing list for future NPRMs should contact the FAA's Office of Rulemaking, (202) 267-9677, for a copy of Advisory Circular No. 11-2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

**The Proposal**

The FAA is proposing an amendment to 14 CFR part 73 to establish three new restricted areas, designated R-6604C, R-6604D and R-6604E, at the NASA Wallops Island Flight Facility in Virginia. The new areas would abut the existing restricted areas (R-6604A and R-6604B) and be used to contain a wide variety of test activities deemed to pose a hazard to nonparticipating aircraft. These activities include, but are not limited to, high-risk test profiles by

heavily modified test aircraft, testing of emitters that could induce harmful electromagnetic interference effects on nonparticipating aircraft, non-eye-safe laser firings, and external stores separation testing. The following is a general description of the proposed areas.

R-6604C would overlie the Wallops Flight Facility airfield and would be contained entirely within the Wallops Flight Facility property boundary. It would extend from the surface up to 3,500 feet mean sea level (MSL).

R-6604D would extend from 100 feet above ground level (AGL) up to 3,500 feet MSL. It would be located between the western boundary of R-6604B and VOR Federal airway V-139 and would also extend approximately 15 NM to the northeast of the R-6604A/R-6604B northern boundary.

R-6604E would extend from 700 feet AGL up to 3,500 feet MSL. It would be located between the western boundaries of R-6604A and R-6604B and VOR Federal airway V-139.

All 3 of the proposed new areas would be activated by the issuance of a Notice to Airmen (NOTAM). Specific times of designation were not proposed for R-6604C, D and E due to the variable nature of test programs.

In addition to the above, 2 points in the boundary of R-6604A that intersect a line 3 NM from the shoreline of the U.S. shoreline would be adjusted to reflect NOAA's updated calculation of the U.S. shoreline.

The configuration of the proposed restricted areas was designed to allow for activation of only that portion of the complex required for the specific test profile being conducted. As is the current practice with R-6604A and R-6604B, when the proposed restricted areas are not required by the using agency, the airspace would be returned to the controlling agency for access by other aviation users.

Note that the existing areas (R-6604A and R-6604B) will continue to be used, as in the past, for missile and rocket launches, aircraft systems development, expendable launch vehicles, lasers, RPV, and other test programs.

Color charts showing the location of the proposed restricted areas will be posted on the internet at <http://www.regulations.gov>. Search docket no. FAA-2015-2776 to view the charts.

**Regulatory Notices and Analyses**

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current.

Therefore, this proposed regulation: (1) Is not a “significant regulatory action” under Executive Order 12866; (2) is not a “significant rule” under Department of Transportation (DOT) Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal.

Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this proposed rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### Environmental Review

This proposal will be subjected to an environmental analysis in accordance with FAA Order 1050.1E, “Environmental Impacts: Policies and Procedures,” prior to any FAA final regulatory action.

#### List of Subjects in 14 CFR Part 73

Airspace, Prohibited areas, Restricted areas.

#### The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend 14 CFR part 73 as follows:

#### PART 73—SPECIAL USE AIRSPACE

■ 1. The authority citation for part 73 continues to read as follows:

**Authority:** 49 U.S.C. 106(f), 106(g); 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389.

#### § 73.66 [Amended]

■ 2. Section 73.66 is amended as follows:

\* \* \* \* \*

#### R-6604A Chincoteague Inlet, VA [Amended]

By removing the current boundaries and inserting the following in its place:

**Boundaries.** Beginning at lat. 37°55′25″ N., long. 75°24′54″ W.; to lat. 37°51′31″ N., long. 75°17′16″ W.; then along a line 3 NM from and parallel to the shoreline to lat. 37°39′20″ N., long. 75°31′19″ W.; to lat. 37°47′00″ N., long. 75°31′18″ W.; to lat. 37°51′00″ N., long. 75°29′36″ W.; to the point of beginning.

#### R-6604C Chincoteague Inlet, VA [New]

**Boundaries.** Beginning at lat. 37°56′57″ N., long. 75°28′37″ W.; to lat. 37°56′54″ N., long. 75°26′56″ W.; to lat. 37°56′23″ N., long. 75°26′46″ W.; to lat. 37°56′45″ N., long. 75°27′29″ W.; to lat. 37°55′15″ N., long. 75°28′23″ W.; to lat. 37°55′15″ N., long. 75°28′39″ W.; to lat. 37°56′32″ N., long. 75°29′18″ W.; to the point of beginning.

**Designated altitudes.** Surface to 3,500 feet MSL.

**Time of designation.** By NOTAM.

**Controlling agency.** U.S. Navy, Patuxent River Radar Approach Control.

**Using agency.** Chief, Wallops Station, National Aeronautics and Space Administration, Wallops Island, VA.

#### R-6604D Chincoteague Inlet, VA [New]

**Boundaries.** Beginning at lat. 38°01′42″ N., long. 75°29′28″ W.; to lat. 38°07′12″ N., long. 75°14′48″ W.; to lat. 38°04′36″ N., long. 75°08′07″ W.; thence 3 NM from and parallel to the shoreline to lat. 37°51′31″ N., long. 75°17′16″ W.; to lat. 37°56′45″ N., long. 75°27′29″ W.; to lat. 37°53′55″ N., long. 75°29′11″ W.; to lat. 37°55′40″ N., long. 75°33′27″ W.; to the point of beginning; excluding R-6604C.

**Designated altitudes.** 100 feet AGL to 3,500 feet MSL.

**Time of designation.** By NOTAM.

**Controlling agency.** U.S. Navy, Patuxent River Radar Approach Control.

**Using agency.** Chief, Wallops Station, National Aeronautics and Space Administration, Wallops Island, VA.

#### R-6604E Chincoteague Inlet, VA [New]

**Boundaries.** Beginning at lat. 37°55′40″ N., long. 75°33′27″ W.; to lat. 37°53′55″ N., long. 75°29′11″ W.; to lat. 37°50′24″ N., long. 75°31′19″ W.; to lat. 37°39′20″ N., long. 75°31′19″ W.; to lat. 37°38′57″ N., long. 75°31′31″ W.; to lat. 37°46′55″ N., long. 75°39′13″ W.; to the point of beginning.

**Designated altitudes.** 700 feet AGL to 3,500 feet MSL.

**Time of designation.** By NOTAM.

**Controlling agency.** U.S. Navy, Patuxent River Radar Approach Control.

**Using agency.** Chief, Wallops Station, National Aeronautics and Space Administration, Wallops Island, VA.

\* \* \* \* \*

Issued in Washington, DC on September 1, 2015.

**Gary A. Norek,**

*Manager, Airspace Policy and Regulations Group.*

[FR Doc. 2015–22827 Filed 9–9–15; 8:45 am]

**BILLING CODE 4910–13–P**

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Food and Drug Administration

#### 21 CFR Part 101

[Docket No. FDA–2012–N–1210]

RIN 0910–AF22

### Food Labeling: Revision of the Nutrition and Supplement Facts Labels; Administrative Docket Update; Availability

**AGENCY:** Food and Drug Administration, HHS.

**ACTION:** Proposed rule; notification.

**SUMMARY:** The Food and Drug Administration (FDA or we) is announcing the availability of certain documents to update the administrative docket of the proposed rule to amend FDA’s labeling regulations for conventional foods and dietary supplements to provide updated nutrition information on the Nutrition Facts and Supplement Facts labels to assist consumers in maintaining healthy dietary practices.

**DATES:** We are extending the comment period that was scheduled to close on September 25, 2015, until October 13, 2015.

**ADDRESSES:** You may submit comments by any of the following methods:

#### Electronic Submissions

Submit electronic comments in the following way:

- **Federal eRulemaking Portal:** <http://www.regulations.gov>. Follow the instructions for submitting comments.

#### Written Submissions

Submit written submissions in the following ways:

- **Mail/Hand delivery/Courier (for paper submissions):** Division of Dockets Management (HFA–305), Food and Drug Administration, 5630 Fishers Lane, Rm. 1061, Rockville, MD 20852.

**Instructions:** All submissions received must include the Docket No. (FDA–2012–N–1210) for this rulemaking. All comments received may be posted without change to <http://www.regulations.gov>, including any personal information provided. For additional information on submitting comments, see the “Comments” heading of the **SUPPLEMENTARY INFORMATION** section of this document.

**Docket:** For access to the docket to read background documents or comments received, go to <http://www.regulations.gov> and insert the docket number(s), found in brackets in the heading of this document, into the “Search” box and follow the prompts and/or go to the Division of Dockets Management, 5630 Fishers Lane, Rm. 1061, Rockville, MD 20852.

#### FOR FURTHER INFORMATION CONTACT:

Serena Lo, Center for Food Safety and Applied Nutrition (HFS–830), Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740, 240–402–2488, email:

[ConsumerStudiesBranch@fda.hhs.gov](mailto:ConsumerStudiesBranch@fda.hhs.gov).

#### SUPPLEMENTARY INFORMATION:

#### I. Background

In the **Federal Register** of March 3, 2014 (79 FR 11879), we published a proposed rule that would amend our

the approval must include the DOA-authorized signature.

#### (j) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2015-0100, dated June 3, 2015, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-0457.

(2) For service information identified in this AD, contact BAE Systems (Operations) Limited, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; telephone +44 1292 675207; fax +44 1292 675704; email [RAPublications@baesystems.com](mailto:RAPublications@baesystems.com); Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on January 13, 2016.

**Michael Kaszycki,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 2016-01088 Filed 1-20-16; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 73

[Docket No. FAA-2015-2776; Airspace Docket No. 15-AEA-5]

**RIN 2120-AA66**

#### Proposed Amendment and Establishment of Restricted Areas; Chincoteague Inlet, VA

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM); reopening of comment period.

**SUMMARY:** This action reopens the comment period for the NPRM published September 10, 2015, proposing to expand the restricted airspace at Chincoteague Inlet, VA. This reopening of the comment period is necessary because a chart depicting the proposed airspace was not available prior to the original comment period closing date. This action will ensure that interested persons have the opportunity to view the chart and submit comments regarding the proposal.

**DATES:** The comment period for the NPRM published September 10, 2015 (80 FR 54444) closed on October 26,

2015, and reopened until February 22, 2016.

**ADDRESSES:** Send comments on this proposal to the U.S. Department of Transportation, Docket Operations, M-30, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001; telephone: (202) 366-9826. You must identify FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5, at the beginning of your comments. You may also submit comments through the Internet at <http://www.regulations.gov>. Comments on environmental and land use aspects to should be directed to: NASA Wallops Flight Facility, Attn: Ms. Shari Silbert, Wallops Island, VA 23337; telephone: (757) 824-2327.

**FOR FURTHER INFORMATION CONTACT:** Paul Gallant, Airspace Policy Group, Office of Airspace Services, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone: (202) 267-8783.

#### SUPPLEMENTARY INFORMATION:

##### Comments Invited

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, aeronautical, economic, environmental, and energy-related aspects of the proposal.

Communications should identify both docket numbers (FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5) and be submitted in triplicate to the Docket Management System (see **ADDRESSES** section for address and phone number). You may also submit comments through the Internet at <http://www.regulations.gov>.

Persons wishing the FAA to acknowledge receipt of their comments on this action must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5." The postcard will be date/time stamped and returned to the commenter.

All communications received on or before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this action may be changed in light of comments received. All comments submitted will

be available for examination in the public docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

#### Availability of NPRM's

An electronic copy of this document may be downloaded through the Internet at <http://www.regulations.gov>.

You may review the public docket containing the proposal, any comments received and any final disposition in person at the Dockets Office (see **ADDRESSES** section for address and phone number) between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. An informal docket may also be examined during normal business hours at the office of the Operations Support Group, Eastern Service Center, Federal Aviation Administration, 1701 Columbia Ave., College Park, GA 30337.

Persons interested in being placed on a mailing list for future NPRM's should contact the FAA's Office of Rulemaking, (202) 267-9677, for a copy of Advisory Circular No. 11-2A.

#### Background

On September 10, 2015, the FAA published a notice of proposed rulemaking (NPRM) proposing the amendment and establishment of restricted areas at Chincoteague Inlet, VA (80 FR 54444), Docket No. FAA-2015-2776, Airspace Docket No. 15-AEA-5. The NPRM included a statement that a color chart of the proposed airspace would be available for viewing on the [www.regulations.gov](http://www.regulations.gov) Web site. However, the chart was not posted until after the comment closing date. One commenter responded that it is difficult to understand the proposed changes because the chart was unavailable.

A color chart showing the location of the proposed restricted areas is now posted on the Internet at <http://www.regulations.gov>. Search docket no. FAA-2015-2776 and click on "open docket folder" to view the chart.

To give the public an opportunity to view the chart prior to submitting comments, the FAA is reopening the comment period for 30 days. All comments submitted during the new comment period, as well as all comments previously received, will be considered before any final action is taken on the proposal. No other proposal information as published in the NPRM has been changed.

Issued in Washington, DC, on January 14, 2016.

**Leslie M. Swann,**

*Acting Manager, Aerospace Policy Group.*

[FR Doc. 2016-01211 Filed 1-20-16; 8:45 am]

**BILLING CODE 4910-13-P**

## CONSUMER PRODUCT SAFETY COMMISSION

### 16 CFR Part 1231

[Docket No. CPSC-2015-0031]

#### Safety Standard for High Chairs; Correction

**AGENCY:** Consumer Product Safety Commission.

**ACTION:** Notice of proposed rulemaking; correction.

**SUMMARY:** The United States Consumer Product Safety Commission (“Commission” or “CPSC”) is correcting a Notice of Proposed Rulemaking (“NPR”) that appeared in the **Federal Register** of November 9, 2015 (80 FR 69144). The document proposed a safety standard for high chairs. The Commission is correcting an error in the proposed regulatory text concerning rearward stability.

**DATES:** As established in the November 9, 2015 NPR, comments on the proposed rule are due by January 25, 2016.

#### FOR FURTHER INFORMATION CONTACT:

Stefanie C. Marques, Project Manager, Directorate for Health Sciences, U.S. Consumer Product Safety Commission, 5 Research Place, Rockville, MD 20850; telephone: 301-987-2581; email: [smarques@cpsc.gov](mailto:smarques@cpsc.gov).

**SUPPLEMENTARY INFORMATION:** In the **Federal Register** of November 9, 2015 (80 FR 69144), the Commission published an NPR proposing to establish a safety standard for high chairs pursuant to section 104(b) of the Consumer Product Safety Act of 2008 (“CPSIA”; Pub. L. 110-314, 122 Stat. 3016). The NPR proposed to incorporate by reference ASTM F404-15, *Standard Consumer Safety Specification for High Chairs* (“ASTM F404-15”) into 16 CFR part 1231 and proposed more stringent requirements than those specified in ASTM F404-15 for rearward stability and warnings on labels and in instructional literature. The NPR contained an error, which the Commission is now correcting.

The correction pertains to proposed 16 CFR 1231.2, paragraph (b)(2), regarding the rearward stability index (“SI”) the Commission proposed to require for high chairs. The preamble to the NPR (page 69151, section VIII.A.,

titled *Description of Proposed Changes to ASTM Standard, Rearward Stability*) and the briefing package available on the Commission’s Web site correctly described and discussed the Commission’s proposal to require high chairs to have an SI of 50 or more. However, the proposed regulatory text on page 69159 of the NPR misstated the proposed requirement as prohibiting high chairs from having an SI of 50 or more.

The Commission hereby makes the following correction to the NPR appearing on page 69144 in the **Federal Register** of November 9, 2015:

#### § 1231.2 [Corrected]

■ On page 69159, in the third column, in § 1231.2, in paragraph (b)(2), “6.5.2 *Rearward stability*—When tested in accordance with 7.7.2.6 (paragraph (c)(3) of this section), a high chair shall not have a Rearward Stability Index of 50 or more.” is corrected to read “6.5.2 *Rearward stability*—When tested in accordance with 7.7.2.6 (paragraph (c)(3) of this section), a high chair shall have a Rearward Stability Index of 50 or more.”

Dated: January 15, 2016.

**Todd A. Stevenson,**

*Secretary, Consumer Product Safety Commission.*

[FR Doc. 2016-01133 Filed 1-20-16; 8:45 am]

**BILLING CODE 6355-01-P**

## SECURITIES AND EXCHANGE COMMISSION

### 17 CFR Part 240

[Release No. 34-76922; File No. S7-15-15]

RIN 3235-AL74

#### Access to Data Obtained by Security-Based Swap Data Repositories and Exemption From Indemnification Requirement

**AGENCY:** Securities and Exchange Commission.

**ACTION:** Reopening of comment period.

**SUMMARY:** The Securities and Exchange Commission (“Commission”) is reopening the comment period for proposed amendments to rule 13n-4 under the Securities Exchange Act of 1934 (“Exchange Act”) related to regulatory access to security-based swap data held by security-based swap data repositories. The proposed rule amendments would implement Exchange Act provisions that conditionally require that security-based swap data repositories make data available to certain regulators and other

authorities. Recent legislation has modified certain underlying statutory provisions.

**DATES:** The comment period for the proposed rule published September 14, 2015, at 80 FR 55182, is reopened. Submit comments on or before February 22, 2016.

**ADDRESSES:** Comments may be submitted by any of the following methods:

#### Electronic Comments

- Use the Commission’s Internet comment form (<http://www.sec.gov/rules/proposed.shtml>); or
- Send an email to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number S7-15-15 on the subject line; or
- Use the Federal eRulemaking Portal (<http://www.regulations.gov>). Follow the instructions for submitting comments.

#### Paper Comments

- Send paper comments to Secretary, Securities and Exchange Commission, 100 F Street NE., Washington, DC 20549-1090.

All submissions should refer to File Number S7-15-15. This file number should be included on the subject line if email is used. To help us process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission’s Internet Web site (<http://www.sec.gov/rules/proposed.shtml>). Comments are also available for Web site viewing and printing in the Commission’s Public Reference Room, 100 F Street NE., Washington, DC 20549 on official business days between the hours of 10:00 a.m. and 3:00 p.m. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly.

Studies, memoranda, or other substantive items may be added by the Commission or staff to the comment file during this rulemaking. A notification of the inclusion in the comment file of any such materials will be made available on the SEC’s Web site. To ensure direct electronic receipt of such notifications, sign up through the “Stay Connected” option at [www.sec.gov](http://www.sec.gov) to receive notifications by email.

#### FOR FURTHER INFORMATION CONTACT:

Carol McGee, Assistant Director, Joshua Kans, Senior Special Counsel, or Kateryna P. Imus, Special Counsel, at (202) 551-5870; Division of Trading and Markets, Securities and Exchange



**July 1, 2015**

**July 1, 2015**

R-6604C

R-6604D

R-6604E

R-6604A: SFC - UNLTD  
R-6604B: SFC - UNLTD

R-6604C: SFC - 3,500' MSL  
R-6604D: 100' AGL - 3,500' MSL  
R-6604E: 700' AGL - 3,500' MSL

Sectional Aeronautical Chart  
Scale 1:500,000



October 19, 2015

Gary A. Norek  
Manager, Airspace Policy and Regulations Group  
U.S. Department of Transportation  
Docket Operations, M-30  
West Building Ground Floor, Room W12-140  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

Subject: FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5

Dear Mr. Norek:

The Wallops Island Regional Alliance (WIRA) respectfully extends its sincere thanks for the opportunity to review the proposal for the above subject that was published in *The Federal Register* on September 10, 2015.

WIRA is an established non-profit group consisting of more than 250 businesses, business leaders, and private citizens.

WIRA fosters and supports the missions of the United States government and related organizations situated at Wallops Island, Virginia. Agencies of the United States government at Wallops Island include the National Aeronautics and Space Administration (NASA), United States Navy (USN), National Oceanic and Atmospheric Administration (NOAA), and United States Coast Guard (USCG).

Those United States government agencies and related organizations along with their respective civilian contractors employ approximately 1,800 personnel at Wallops Island.

On the Delmarva peninsula, WIRA is the largest single independent support organization, and the Wallops Island facilities have the largest single concentration of high tech employees.

WIRA strongly supports the prompt adoption of the above subject proposed rule for expanding the restricted airspace at Chincoteague Inlet, Virginia. This restricted airspace expansion is needed to safely accommodate existing and future operational requirements associated with the United States government agencies at Wallops Island.

**WALLOPS ISLAND REGIONAL ALLIANCE**

Gary A. Noreen  
October 19, 2015  
Page 2

Those operational requirements serve an extremely vital role in national security, national defense, and national protection of life and property from weather events.

Expansion of the restricted airspace is not precedent setting and does not adversely affect aircraft enroute operations.

Here's why.

The proposed restricted areas R-6604D and R-6604E abut, but do not include, the existing enroute low altitude airway V-139. If either or both of those two restricted areas are in use, then air traffic can continue to flow unimpeded on V-139.

Similar conditions already exist elsewhere without adversely affecting enroute air traffic conditions.

For example, near the Atlantic coastline in Georgia, the major north-south enroute low altitude airway V-37 abuts prohibited area P-50. Prohibited area P-50 overlies the USN nuclear submarine base at Kings Bay, Georgia, located just to the north of the town of St. Mary's.

Also, near the Atlantic coastline in Florida, the major north-south enroute low altitude airway V-3 passes through restricted area R-2935. Restricted area R-2935, intermittent in use, is associated with operations at the NASA Kennedy Space Center.

The proposed restricted areas at Chincoteague Inlet, Virginia are to be intermittent in use. When the restricted areas are not in use, then aircraft can pass through those areas without prior permission. NASA Wallops Flight Facility already allows uninterrupted aircraft passage through the existing restricted areas R-6604A and R-6604B when either or both are not in use.

No private-use airports exist in the proposed restricted areas R-6604D and R-6604E. Should a private-use airport later be established, then typically a coordinated plan for its

beneficial use is instituted. Such private-use airports exist harmoniously in numerous locations within existing restricted areas across the United States.

Thus, allowing the expansion of the restricted airspace does not adversely affect enroute air traffic flow and is beneficial to the safety and operational requirements of the United States government facilities at Wallops Island.

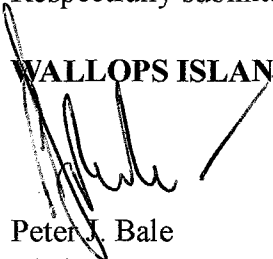
**WALLOPS ISLAND REGIONAL ALLIANCE**

Gary A. Norek  
October 19, 2015  
Page 3

Thank you.

Respectfully submitted,

**WALLOPS ISLAND REGIONAL ALLIANCE**



Peter J. Bale  
Chairman

cc: Mr. William A. Wrobel, Director  
(via e-mail to William.A.Wrobel@nasa.gov)  
Suborbital and Special Orbital Projects Directorate, Code 800  
Goddard Space Flight Center's Wallops Flight Facility  
National Aeronautics and Space Administration  
Wallops Island, VA 23337-5099

Caroline R. Massey, Assistant Director  
(via e-mail to Caroline.R.Massey@nasa.gov)  
Management Operations Directorate, Code 200  
Goddard Space Flight Center's Wallops Flight Facility  
National Aeronautics and Space Administration  
Wallops Island, VA 23337-5099

Jeremy L. Eggers, Associate Chief  
(via e-mail to Jeremy.L.Eggers@nasa.gov)

Office of Communications, Code 100  
Goddard Space Flight Center's Wallops Flight Facility  
National Aeronautics and Space Administration  
Wallops Island, VA 23337-5099

Steven B. Miner, Ph.D.  
(via e-mail to [sminer@co.accomack.va.us](mailto:sminer@co.accomack.va.us))  
Accomack County Administrator  
Post Office Box 388  
Accomac, VA 213301-0388





# COMMONWEALTH of VIRGINIA

Randall P. Burdette  
Executive Director

*Department of Aviation*  
5702 Gulfstream Road  
Richmond, Virginia 23250-2422

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ISO 9001:2008 Certified  
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February 19, 2016

Gary A. Norek  
Manager, Airspace Policy and Regulations Group  
U.S. Department of Transportation  
Docket Operations, M-30  
West Building Ground Floor, Room W12-140  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

RE: FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5

Dear Mr. Norek:

The Virginia Department of Aviation wishes to state support for the efforts to expand restricted airspace near Wallop's Island, that action being described in the docket references above.

NASA Wallops Flight Facility has a long history of research and operations excellence, that period now spanning seven decades. The Commonwealth is proud to have this vital asset within our borders, and further is proud of the record of achievements emanating from Wallops regarding space exploration and aeronautical research.

We believe expansion of the airspace as proposed is unobtrusive to the flying public, knowing that the protocol of utilization will only have the airspace "hot" when aeronautical testing is underway.

Therefore we respectfully submit our support for the expansion of the restricted area and ask that you seek our further feedback should that be your desire.

Sincerely,

Randall P Burdette





## VIRGINIA COMMERCIAL SPACE FLIGHT AUTHORITY

September 29, 2015

Gary A. Norek  
Manager, Airspace Policy and Regulations Group  
U.S. Department of Transportation  
Docket Operations, M-30  
West Building Ground Floor, Room W12-140  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

Re: FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5

Dear Mr. Norek:

Regarding FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5, the Board of Directors and the organization of the Virginia Commercial Space Flight Authority (VCSFA) wholeheartedly support the Federal Aviation Administration (FAA) proposed rule for expanding the NASA Wallops Flight Facility (WFF) Restricted Airspace in support of ongoing and future flight operations.

On behalf of the Commonwealth of Virginia, the Virginia Space Authority is in the process of developing an Unmanned Aircraft Systems (UAS) Runway at the north end of Wallops Island at NASA WFF. The UAS Runway design includes a 3000-foot long by 75-foot wide runway with a 75-foot cleared area around the perimeter. The Concept of Operations (CONOPS) includes both government and commercial customers, with flight operations executed in close coordination with NASA WFF Range. These flight operations will support growth of the UAS industry and generate economic development for the Commonwealth of Virginia in the aerospace sector.

UAS flight operations are inherently dynamic and ever changing. Furthermore, being a relatively nascent technology and industry, UAS flight operations often involve tests of new, first-of-its-kind technologies, which are by their very nature high-risk/hazardous, thus requiring evacuated airspace. In support of the VCSFA UAS flight operations, it is envisioned that NASA WFF would activate its Restricted Airspace only when needed to ensure public safety during high-risk/hazardous flight operations. NASA WFF has a well known and respected history of managing its existing Restricted Airspace responsibly and only when required for safety, ensuring minimal impact to the associated flying community at large.

The expanded Restricted Airspace proposal appears sensible and right-sized to ensure public safety while minimally impacting the flying public. Furthermore, it would considerably improve the operational flexibility and offerings of the VCSFA UAS Runway to potential customers, adding to the overall economic development benefits. Thus, we strongly support expedient passage of the Federal Aviation Administration's proposed rule for expanding NASA Wallops Flight Facility's restricted airspace.

Respectfully,

A handwritten signature in dark ink, appearing to read "William Readdy".

William F. Readdy  
Chairman  
Virginia Commercial Space Flight Authority

cc: Bill Wrobel, Director, NASA Wallops Flight Facility  
Dale Nash, Executive Director, VCSFA



31901 TRI-COUNTY WAY  
SUITE 203  
SALISBURY, MARYLAND 21804  
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FAX: 410-341-8988  
WWW.LOWERSHORE.ORG

October 19, 2015

Gary A. Norek  
Manager, Airspace Policy and Regulations Group  
U.S. Department of Transportation  
Docket Operations, M-30  
West Building Ground Floor, Room W12-140  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

Subject: FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5

Dear Mr. Norek:

The Tri-County Council for the Lower Eastern Shore of Maryland (TCCLES) respectfully extends its sincere thanks for the opportunity to review the proposal for the above subject that was published in *The Federal Register* on September 10, 2015.

TCCLES is a regional council of governments that serves Somerset, Wicomico and Worcester Counties on the lower Eastern Shore of Maryland.

TCCLES strongly supports the prompt adoption of the above subject proposed rule for expanding the restricted airspace at Chincoteague Inlet, Virginia. This restricted airspace expansion is needed to safely accommodate existing and future operational requirements associated with the United States government agencies at Wallops Island.

Those operational requirements serve an extremely vital role in national security, national defense, and national protection of life and property from weather events.

Expansion of the restricted airspace is not precedent setting and does not adversely affect aircraft enroute operations for the following reasons:

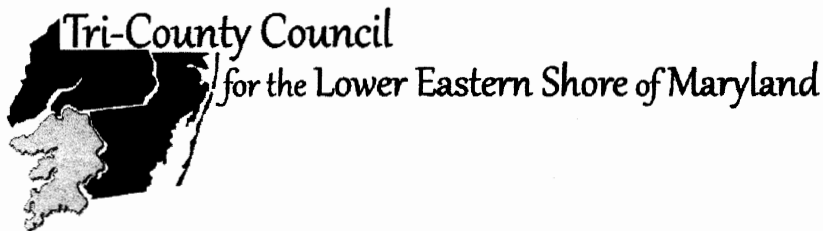
- The proposed restricted areas R-6604D and R-6604E abut, but do not include, the existing enroute low altitude airway V-139. If either or both of those two restricted areas are in use, then air traffic can continue to flow unimpeded on V-139.
- Similar conditions already exist elsewhere without adversely affecting enroute air traffic conditions.

For example, near the Atlantic coastline in Georgia, the major north-south enroute low altitude airway V-37 abuts prohibited area P-50. Prohibited area P-50 overlies the USN nuclear submarine base at Kings Bay, Georgia, located just to the north of the town of St. Mary's.



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**for the Lower Eastern Shore of Maryland**

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Also, near the Atlantic coastline in Florida, the major north-south enroute low altitude airway V-3 passes through restricted area R-2935. Restricted area R-2935, intermittent in use, is associated with operations at the NASA Kennedy Space Center.

The proposed restricted areas at Chincoteague Inlet, Virginia are to be intermittent in use. When the restricted areas are not in use, then aircraft can pass through those areas without prior permission. NASA Wallops Flight Facility already allows uninterrupted aircraft passage through the existing restricted areas R-6604A and R-6604B when either or both are not in use.

No private-use airports exist in the proposed restricted areas R-6604D and R-6604E. Should a private-use airport later be established, then typically a coordinated plan for its beneficial use is instituted. Such private-use airports exist harmoniously in numerous locations within existing restricted areas across the United States.

Thus, allowing the expansion of the restricted airspace does not adversely affect enroute air traffic flow and is beneficial to the safety and operational requirements of the United States government facilities at Wallops Island.

Sincerely,

Michael P. Pennington  
Executive Director

cc: Mr. William A. Wrobel, Director  
(via e-mail to William.A.Wrobel@nasa.gov)  
Suborbital and Special Orbital Projects Directorate, Code 800  
Goddard Space Flight Center's Wallops Flight Facility  
National Aeronautics and Space Administration  
Wallops Island, VA 23337-5099

Caroline R. Massey, Assistant Director  
(via e-mail to Caroline.R.Massey@nasa.gov)



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## Sebastian Massimini

This is a Comment on the **Federal Aviation Administration (FAA)**  
Proposed Rule: **Establishment of Restricted Areas:**  
**Chincoteague Inlet, VA**

For related information, [Open Docket Folder](#) 

Comment Period Closed  
Oct 26 2015, at 11:59 PM ET

### Comment

The online proposal does not have images, so it is very difficult to understand the limits of the proposed areas. However, I submit the following comments:

1. V139 and other airways in the area should remain usable when the proposed restricted areas are in use. The would require that the width of the airway(s) be accommodated on the east side of the centerline of the airway(s).

2. The FAA has not established the requirement for a restricted area rather than a warning area or other less restrictive special use airspace. The NPRM does not specify what type of training is to be conducted, so it is not clear if the type of training merits a restricted area or could be accomplished with a less restrictive type of special use airspace like a warning area. (The current restricted areas are used to protect traffic from space launches, which clearly require a restricted area. However, the propose areas are being established for other unspecified uses.)

The FAA has not justified why special use airspace must be established over land. In this case, areas for testing could be established over water adjacent to Wallops. This option should be considered before establishing special use airspace over land. (The current areas over land are reasonable since they protect during launches from Wallops.)

**ID:** FAA-2015-2776-0006

**Tracking Number:** 1jz-8l3s-vc26

### Document Information

**Date Posted:**

Nov 5, 2015

**RIN:**

2120-AA66

[Show More Details](#) 

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Dr. Douglas O. Stanley  
President & Executive Director

Gary A. Norek  
Manager, Airspace Policy and Regulations Group  
U.S. Department of Transportation  
Docket Operations, M-30  
West Building Ground Floor, Room W12-140  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

Re: FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5

Dear Mr. Norek:

Regarding FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5, the National Institute of Aerospace wholeheartedly supports the Federal Aviation Administration's proposed rule for expanding NASA Wallops Flight Facility's restricted airspace in support of ongoing and future operations.

In addition to need for this additional airspace for NASA Wallops' important core missions, it would have great benefit to the emerging Unmanned Aerial Systems (UAS) industry as well as important university research. Facilities to perform UAS research are very limited and this additional airspace would be used to develop important UAS-related technologies by NASA, the Mid-Atlantic Aviation Partnership, NIA and our member universities (e.g., Virginia Tech).

We feel that the benefits of this airspace very much justify the additional restrictions, particularly since the restrictions would only be temporary, as required.

If you have additional questions, please do not hesitate to contact me.

Sincerely,

Dr. Douglas O. Stanley  
President & Executive Director



## Miles Barrett

This is a Comment on the **Federal Aviation Administration (FAA)**  
Proposed Rule: **Establishment of Restricted Areas:**  
**Chincoteague Inlet, VA**

For related information, [Open Docket Folder](#) 

Comment Period Closed  
Oct 26 2015, at 11:59 PM ET

**ID:** FAA-2015-2776-0010

**Tracking Number:** 1jz-8l84-q0lx

### Comment

Please listen to AOPA advise and think of the long range impact before any vote. AOPA summarized it well; and, as a CFI CFII as well as a DAV Owned Small Business which uses General Aviation to volunteer service to our troops after 26 years Navy Chaplain Corps I hope you listen to AOPA clarification of the impact proposed in the bill. Thank you.

PS Unless you fly a cross country flight with limited fuel in a small plane (or send your Student Pilot on his/her 1st cross country flight Solo) and Mother Nature plays her cards you don't know how you may almost make it to your destination; but, have to divert to an alternate airport and required to have 30-45 minutes of fuel on board after the alternate ....then talk to me about the airspace impact proposed. Please think of our future generation pilots only now in the pipe line. Please. I'm retired and volunteered over 225 hours in the last 2 years while being away half the time volunteering coverage to military troops and VA hospitals. My students do not need the extra limitations on them over the drones. I file IFR and go cross country high but they are VFR and low where the conflict needs attention. Listen to AOPA. It helps us all to have a win win situation everyone benefits from today.

Thank you for your time and attention to this very important piece of history being made today. Your decision may impact your next generation of future pilots. Not to mention you future USA trained qualified pilots impacted by your decision today. Thank you for your attention to detail.

Pax Christi, carpe diem!

Fr. Miles Barrett USN (Ret.)

CFI, CFII, AGI, #3703246 Exp. 6/16

LtCol CAP #134495

11 Eider Lane

North Cape May, NJ 08204

26 years USN Chaplain Corps retired

34 years Roman Catholic priest still volunteering coverage and flying a Piper Turbo Arrow III 1977 in GA to serve God and Country

### Document Information

**Date Posted:**

Nov 5, 2015

**RIN:**

2120-AA66

[Show More Details](#) 

### Submitter Information

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North Cape May

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United States

**State or Province:**

NJ

**ZIP/Postal Code:**

08204-5504

October 26, 2015

Mr. Paul Gallant,  
U.S. Department of Transportation  
Docket Operations, M-30  
1200 New Jersey Avenue SE  
West Building Ground Floor  
Room W12-140  
Washington, DC 20590-0001

Re: FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5, *Notice of Proposed Rulemaking for Proposed Amendment and Establishment of Restricted Areas: Chincoteague Inlet, VA*

Dear Mr. Gallant,

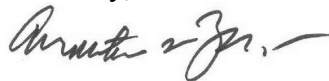
I am writing on the behalf of the Helicopter Association International (HAI), a not-for-profit, professional trade association that represents the interests of the helicopter community. HAI has over 4,000 members, including 1,727 companies in 74 nations. For over 60 years, HAI has provided its members with services that directly benefit their operations by offering programs to enhance safety, encourage professionalism, and promote the unique benefits of vertical flight. HAI's first priority is – and always will be – safety.

HAI submits the following in response to the request for comments for the referenced Notice of Proposed Rulemaking related to airspace surrounding the NASA Wallops Flight Facility. HAI applauds NASA's efforts to maintain separation between test aircraft and the general aviation (GA) community and we commend NASA Wallops Flight Facility for its long history of responsible airspace management. However, we are unable to support the proposed changes as presented. We believe there are safety issues that require additional analysis and risk mitigation before any restricted airspace expansion.

HAI agrees with the concerns and supports recommendations presented by AOPA in their letter dated September 16, 2015. Expansion of airspace as described in the NPRM will impact both IFR and VFR aircraft. As proposed, this expansion of restricted airspace would require helicopter operators to either fly further offshore for longer periods to circumnavigate restricted airspace, or to fly further west into a more tightly congested corridor. In this respect, the offshore environment is of particular concern, especially during winter months when lower sea temperatures greatly reduce aircrew survivability times, should a mishap result in water entry. Additionally, increased minimum altitudes proposed for R-6604 D and E could force helicopter operators higher and subject them to increased encounters with icing conditions.

I therefore urge the FAA to withhold approval of this proposed expansion of restricted airspace until such time that further analysis can be conducted to enable a complete understanding of the risks and impacts to the general aviation community.

Sincerely,



Matthew S. Zuccaro  
President & CEO of Helicopter Association International



**February 19, 2016**

Gary A. Norek  
Manager, Airspace Policy and Regulations Group  
U.S. Department of Transportation  
Docket Operations, M-30  
West Building Ground Floor, Room W12-140  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

Re: FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5

Dear Mr. Norek:

Thank you for this opportunity to comment on FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5. The Governor's Aerospace Advisory Council is comprised of Virginia state legislators, as well as federal and industry partners charged with advising the Governor on policy and funding priorities to promote the Commonwealth's aerospace and space exploration industries. Our 19-member council is further mandated to devise and recommend strategies to the governor that contribute to the growth and development of Virginia's aerospace industry. We believe expanding NASA Wallops Flight Facility's restricted airspace to include R-6604 C, D and E is a critical initiative to further aerospace growth in Virginia smartly and safely. To that end, we unanimously support the Federal Aviation Administration adopting the proposed rule.

It is the long-time mission of Wallops to support the flight operations requirements of NASA, other federal agencies, industry and academia. For more than 70 years, the men and women of Wallops have amassed an incredible record of accomplishment. Today, with strong federal and state partnerships engaged in multiple, diverse missions at the facility, Wallops is poised to be the epicenter for enormous advances in the aerospace industry. Expanding Wallops' restricted airspace for use temporarily on an as-needed basis during hazardous flight operations is the right decision at the right time given the facility's increasing, vital role in aerospace research, test and development.

NASA has responsibly operated R-6604 A and B over the years, only activating the restricted airspace during hazardous launch operations and otherwise allowing aircraft passage through the area. NASA would operate the expanded restricted airspace in kind: infrequent, temporary use, publicized in advance via Notices to Airmen, for the express purpose of facilitating operations while ensuring public safety.



The FAA's proposed rule expanding Wallops' restricted airspace comes at a critical juncture, recognizing the facility's crucial role in furthering Virginia and our nation's goals in air and space. This initiative is right-sized, and NASA's proposal for operating the airspace is a balanced, safety-focused approach that is minimally impactful to the flying community. We commend the FAA for recognizing Wallops' unique capabilities as well as its expanding and evolving role in conducting diverse test and operational flight activities.

To facilitate the activities explained above safely, while also contributing economic growth and development in the region, we strongly support the adoption of this proposed rule. This action was ratified by vote of the Governor's Aerospace Advisory Council at our meeting on December 2, 2015.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Yancey", with a stylized flourish at the end.

The Honorable David E. Yancey  
Chair

C: Keith F. McCrea



## Proposed Modification and Establishment of Restricted Areas; Chincoteague Inlet, VA

[Docket Browser](#)[Return to Document](#)

This is a Comment on the **Federal Aviation Administration (FAA)**  
Proposed Rule: **Establishment of Restricted Areas:**  
**Chincoteague Inlet, VA**

Comment Period Closed  
Oct 26 2015, at 11:59 PM ET

For related information, [Open Docket Folder](#) 

### Comment

This is very busy airspace used by a lot of citizens thorough wither commercial of private flights. There is more than sufficient airspace out West to use for testing (drones to otherwise) without confiscating this airspace for government use. There is no established need to do the testing here.

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**Tracking Number:** 1jz-8l74-6h9l

### Document Information

**Date Posted:**

Nov 5, 2015

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2120-AA66

[Show More Details](#) 

### Submitter Information

**Submitter Name:**

dan



## Anonymous

This is a Comment on the **Federal Aviation Administration (FAA)**  
Proposed Rule: **Establishment of Restricted Areas:**  
**Chincoteague Inlet, VA**

For related information, [Open Docket Folder](#) 

Comment Period Closed  
Oct 26 2015, at 11:59 PM ET

**ID:** FAA-2015-2776-0009

**Tracking Number:** 1jz-8l77-742t

### Comment

There are already far to many restricted areas in that part of the country. V139 airway is just able to be used to cross that area for light general aviation. Any further restricted areas will make north south travel even harder. Especially with bad weather or vectors by ATC. NASA and DOD have plenty of test areas in other parts of the country especially for drone test. There is no compelling national security need to take more airspace from the national airspace system in that part of the country.

### Document Information

**Date Posted:**

Nov 5, 2015

**RIN:**

2120-AA66

[Show More Details](#) 

### Submitter Information

**Submitter Name:**

Anonymous



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Frederick, Maryland 21701

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F. 301-695-2375

[www.aopa.org](http://www.aopa.org)

September 16, 2015

Mr. Paul Gallant  
U.S. Department of Transportation  
Docket Operations, M-30  
1200 New Jersey Avenue SE.  
West Building Ground Floor, Room W12-140,  
Washington, DC 20590-0001

Re: FAA Docket No. FAA-2015-2776 and Airspace Docket No. 15-AEA-5, Notice of Proposed Rulemaking for Proposed Amendment and Establishment of Restricted Areas; Chincoteague Inlet, VA

Dear Mr. Gallant,

The Aircraft Owners and Pilots Association (AOPA), the world's largest aviation membership association, submit the following comments in response to the Notice of Proposed Rulemaking for the amendment and establishment of additional Restricted Areas at Wallops Flight Facility, VA. AOPA is concerned with the impacts this large expansion of Restricted Area could have on local and transient Visual Flight Rule (VFR) and Instrument Flight Rule (IFR) aircraft.

### **IFR Aircraft**

In the June 9, 2004, final rule regarding R-6604, the FAA noted that the VOR Federal Airway 139 (V-139), which connects Snow Hill VORTAC (SWL) and Cape Charles VORTAC (CCV), had high traffic demand. The rule noted that the activation of R-6604 increased the workload for air traffic controllers and pilots due to the need to reroute aircraft so as to avoid this airspace. The Restricted Area was consequently reduced in size so as to not interfere with V-139.

The 2015 proposed R-6604 D and E areas would revert the design back to a shape that the FAA noted significantly impacted this highly travelled airway. The Restricted Area would be expanded in a way that it intersects V-139 close to SWL which would render this segment unusable during periods of activation. Pilots are currently permitted to fly this route as low as 2,000' MSL but this would not be possible if the Restricted Area extends from 100' or 700' AGL to 3,500' MSL.

Additionally, the feeder route from SWL to the initial approach fix of GOBYO for Ocean City Municipal Airport's (KOXB) RNAV (GPS) RWY 32 instrument approach procedure would be unavailable during activation of R-6604D. Pilots and controllers would lose the efficiency provided in the feeder route design and there would be an increased likelihood of pilots needing to fly longer routes. Increasing the distance pilots need to fly increases fuel consumption and the economic impact on the operator.

## **VFR Aircraft**

The more than doubling of the Restricted Area in this location will lead to increased circumnavigation and greater expense for pilots. Highway US-13, the railroad tracks, and a much larger extent of the seashore would no longer be available for VFR navigation during periods of activation. These three types of landmarks are routinely used by pilots who navigate without the use of GPS or navigational aids, and who notably fly at lower altitudes. Flying the shoreline at lower altitude is a particularly popular method of navigation. The large expanse of Restricted Area would make circumnavigation to the east over open water dangerous for those single-engine shore line following pilots, and time consuming for those diverting around the complex to the west.

## **Recommendations**

AOPA contends the proposed airspace design would have a negative impact on many aircraft and offers the following recommendations to mitigate the effect.

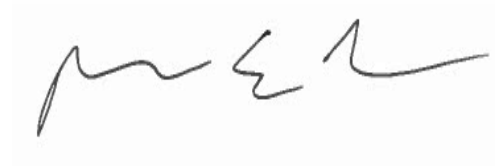
- Consideration must be given to other types of Special Use Airspace (SUA) before additional Restricted Area is enacted. The doubling of the Restricted Area in this area requires justification as it will negatively impact many general aviation pilots.
- Reduce the size of R6604 D and E to not interfere with V-139. Furthermore, reducing the ceiling of the airspace to be below the usable segment altitude for V-139, if feasible, would allow pilots to overfly the Restricted Area. These two mitigations would allow the continued operation of IFR aircraft on this well-travelled route and reduce pilot and air traffic controller workload.
- Any new Restricted Area must be charted on applicable instrument approach procedures. The proposed Restricted Area comes very close to numerous final approach courses of surrounding airports so increasing pilots situational awareness is important.
- Providing VFR stand-alone waypoints in the Chincoteague area will assist pilots unfamiliar with the area safely navigate around any expanded Restrict Area.
- The proposal states activation for R-6604 D and E areas would take place by NOTAM but fails to state how much advance notice pilots would receive. Pilots cannot adequately flight plan should this airspace be activated after they depart. Aircraft can have over six hours of fuel endurance and having to deal with a long reroute can lead to issues of the pilot having enough fuel and unnecessary fuel diversions. At least 12 hours advance notice is necessary to assist pilots.



The AOPA understands and supports the National Aeronautics and Space Administration's and the Department of Defense's need to flight test aircraft that support the national defense. We believe this testing can be done in a manner that will not cause an undue negative effect on general aviation.

Thank you for the opportunity to comment on this important issue.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rune Duke', with a stylized, cursive script.

Rune Duke  
Director, Airspace and Air Traffic

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