

FEDERAL AVIATION ADMINISTRATION
ADOPTION OF THE ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT and RECORD OF DECISION
FOR

**National Aeronautics and Space Administration (NASA) Establishment of Restricted Area
Airspace (R-) 6604C/D/E at Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, Virginia**

Introduction

This document serves as the Federal Aviation Administration's (FAA) adoption of NASA's Establishment of Restricted Area Airspace (R-) 6604C/D/E at Wallops Flight Facility (WFF), Final Environmental Assessment (EA) *Establishment of Restricted Area Airspace 6604C/D/E at Wallops Flight Facility*. The Final EA analyzed the potential environmental impacts of the proposed establishment of additional Restricted Area Airspace such that NASA can conduct experimental test profiles with a significantly 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. The new Restricted Area Airspace would supplement WFF's existing R-6604 A/B airspace. In addition to the Proposed Action, the Final EA evaluates the No Action Alternative.

The FONSI provided the environmental impact determination and resulting decisions. Pursuant to section 102 (C) of the National Environmental Policy Act (NEPA) of 1969, and the Council on Environmental Quality (CEQ) regulations (40 CFR parts 1500-1508), the FAA announces its decision to adopt the NASA Final EA for the purpose of the Establishment of Restricted Area Airspace R-6604C/D/E at WFF, Accomack County, Virginia.

Background

NASA requests that the Federal Aviation Administration grant additional Restricted Area Airspace such that NASA can conduct experimental test profiles with a significantly 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.

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 for the Final EA. The FAA is a Cooperating Agency. The environmental analysis for the proposed action is included in the Final EA.

As the Lead Agency, NASA published the Final EA in accordance with NEPA in September 2016. The Final EA concluded with a FONSI, which was signed by NASA on September 19, 2016. NASA issued a Final Errata to address some technical considerations required by the FAA in October 2016.

NASA amended the Proposed Action based upon the input received during the public review and comment period. These amendments include processes and procedures that would ensure the least impact to the surrounding community while also meeting NASA flight testing objectives.

As a cooperating agency, the FAA provided input to NASA during development of NASA's Final EA. In accordance with FAA Order 1050.1F "*Environmental Impacts: Policies and Procedures*", and FAA Order 7400.2K *Procedures for Handling Airspace Matters*, the FAA has independently evaluated the information contained in the proposal and takes full responsibility for the scope and content that address FAA actions. The FAA evaluation also included all impact categories required by NEPA, and has found those to be in accordance with NEPA and its implementing regulations 40 CFR Part 1500-1508 and FAA Order 1050.1F.

Proposed Action

The proposed action consists of 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 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. No changes are proposed to the types of aircraft or types and number of operations conducted within the airspace

Purpose and Need

The purpose of the proposed action is to establish additional Restricted Area Airspace where NASA can conduct experimental test profiles with a significantly lower risk of encountering non-participating aircraft, thus protecting them 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 an 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. The need for the proposed action is driven by multiple shortfalls in the existing Restricted Area Airspace at Goddard Space Flight Center at WFF. Implementation of the proposed action would address these shortfalls.

Presently, the majority of high-risk test profiles conducted at WFF are only partially contained within 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. 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 conduct experimental test profiles. 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.

Alternatives

There were two alternatives analyzed in the Final EA: the Proposed Action and the No Action Alternative.

No Action Alternative - Under the No Action Alternative, there would be no change to the current Restricted Area Airspace of the Goddard Space Flight Center at WFF and the current experimental test flight operations would continue at the same tempo within the Class D airspace, R-6604A/B, and offshore Warning Areas controlled by the Fleet Area Control and Surveillance Facility, Virginia Capes (FACSFAC VACAPES). Under the No Action Alternative, the purpose of and need for the proposed action would not be met.

Environmental Impacts

In accordance with FAA Order 1050.1F, the FAA has conducted an independent evaluation of the Final EA. Adoption of NASA's Final EA by the FAA requires that each impact category detailed in FAA Order 1050.1F is analyzed in addition to NASA's environmental requirements. In many cases, the categories overlap. The following section contains the results of evaluation regarding the potential environmental impacts associated with the Proposed Action.

Air Quality: The Proposed Action would have no significant effect on air quality. WFF is located in an attainment area for all six National Ambient Air Quality Standards (NAAQS) listed criteria air pollutants set by the EPA's Office of Air Quality Planning and Standards. The Proposed Action would not change operational levels at WFF and, therefore, would not be expected to impact air on or around WFF. See Final EA pg. 3-11 – 3-12.

Biological Resources: Although biological communities are found in the surrounding areas, no noise impacts are anticipated on these communities because no changes are proposed to the types of aircraft or types and number of operations conducted within the airspace. 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 federally endangered piping plover (*Charadrius melodus*) or federally threatened rufa red knots (*Calidris canutus rufa*) but would not likely result in jeopardy to either of these species. WFF aircraft operations and the proposed expansion of R-6604 are not likely to adversely affect federally threatened loggerhead sea turtles (*Caretta caretta*). See Final EA pg. 3-7 – 3-11.

Climate Change: Although there are no federal standards for aviation-related Green House Gas (GHG) emissions, it is well-established that GHG emissions can affect climate¹. The CEQ has indicated that climate should be considered in NEPA analyses. As noted by CEQ, however, "it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and to understand."² Given that the total emissions associated with the Proposed Action would be the same as the existing aircraft emissions for all the criteria pollutants based on flight hours and fleet mix, it is reasonably foreseeable that the carbon dioxide (CO₂) equivalent emissions would also not significantly change with the implementation of the Proposed Action. Therefore, implementation of the Proposed Action would not result in a net change with respect to Climate Change.

Coastal Resources: Under the Proposed Action, there would be no significant impacts on coastal resources. See Final EA pg. 3-13 -3-14.

Department of Transportation Act, Section 4(f):³ Wallops Island and the surrounding area do contain two National Wildlife Refuges (NWR) and a National Seashore. They are the Wallops and Chincoteague National Wildlife Refuges, and the Assateague Island National Seashore. However, designation of airspace for military flight operations is exempt from section 4(f). The National Defense Authorization Act for Fiscal Year 1998 (Public Law 105-85) provided that "[n]o military flight operations (including a military training flight), or designation of airspace for such an operation, may be treated as a transportation program or project for purposes of section 303(c) of title 49, United States Code." Nevertheless, NASA determined that the Proposed Action would not preclude the availability of publicly owned recreational resources. See Final EA Section 3.1 and Final Errata.

Farmlands: The geographic area over which Proposed Action would occur (i.e., the area underneath the proposed Restricted Area Airspace) contains prime farmlands. However, none of the activities associated with the Proposed Action have the potential to convert farmland to non-agricultural uses. See Final EA pg. 3-5 and Final Errata.

Hazardous Material, Solid Waste, and Pollution Prevention: Activities associated with the Proposed Action would not utilize additional hazardous materials or generate additional hazardous waste. See Final EA pg. 3-15.

Historical, Architectural, Archeological, and Cultural Resources: Activities associated with the Proposed Action would not cause ground disturbance nor would it have the potential to cause structural damage to historical structures located beneath this airspace complex; therefore, cultural resources would not be affected. The Virginia State Historic Preservation Office concurred that the Proposed Action would not have the potential to affect historic properties. See Final EA pg. 3-5 and Appendix A.

¹ See *Massachusetts v. E.P.A.*, 549 U.S. 497, 508-10,521-23 (2007).

² *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*, CEQ (2010).http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf

³ Section 4(f) of the U.S. Department of Transportation (DOT) Act was renumbered in 1983 as section 303(c) of Title 49.

Natural Resources and Energy Supply: No impact to utilities or infrastructure (e.g. water, energy [natural gas and electricity]; wastewater treatment, solid waste management) would occur as a result of the Proposed Action. See Final EA pg. 1-2, 3-5 and Final Errata.

Noise and Compatible Land Use: The Proposed Action would not change existing aircraft operation levels or aircraft types; therefore, no changes in noise levels are anticipated from the existing to the projected environment on or around the WFF Main Base as a result of implementing the proposed action. This includes residential areas, the Wallops or Chincoteague National Wildlife Refuges, or the Assateague Island National Seashore. There are no other sensitive receptors within the current 65 dB DNL or greater noise contour surrounding the WFF airfield. Therefore, there would be no significant impact from noise as a result of the Proposed Action. See Final EA Section 3.5.

Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety: There would be no long-term changes in economic activity associated with the Proposed Action, as no additional personnel would be added at the training center. Additionally, the Proposed Action would have negligible impacts on cities and communities within the area of effect. Disproportionate impacts on minority, low-income, or youth populations are not expected. Ground-based economic activity, including employment, would not be impacted by any element of the expansion or of operations with Restricted Area Airspace, noise levels would remain below the recommended sound level thresholds established to protect public health and welfare, including annoyance, in areas where quiet is a recognized resource. Therefore, implementation of the Proposed Action would have less than significant impact on socioeconomics, environmental justice, and children's health and safety issues beneath the proposed additional Restricted Area Airspace and within the area of effect. See Final EA pg. 3-5 – 3-7.

Visual Effects and Light Emissions: Aircraft operations associated with the Proposed Action would not change. The Proposed Action would not produce light that would annoy people or situations where the visual sight of aircraft would be intrusive. See Final EA pg. 2-6, 1-2, 3-5 and Final Errata.

Water Resources: Wallops Island and the surrounding area 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 proposed Restricted Area Airspace would not affect nearby Chincoteague NWR, Wallops Island NWR, the Assateague Island National Seashore, wetlands, or any other ground-based resources. All activities associated with the Proposed Action would occur within defined airspace and would therefore not impact any water resources. See Final EA pg. 3-12 – 3-14.

Cumulative: The area underlying the proposed WFF Restricted Area Airspace defines the geographic extent for the cumulative effects analysis. Analysis of the Proposed Action and the No Action Alternative, when considered cumulatively with past, present and future actions, would not result in adverse and/or significant impacts to noise, land use and visual resources, biological resources, cultural resources, air quality, climate change or socioeconomics, environmental justice and protection of children.

The cumulative impact of this proposed action on the global climate when added to other past, and reasonable foreseeable future actions is not currently predictable using available scientific methods.

However, aviation has been calculated to contribute approximately 3 percent of global CO₂ emissions; this contribution may grow to 5 percent by 2050. Actions are underway within the U.S. and by other nations to reduce aviation's contribution through such measures as new aircraft technologies to reduce emissions and improve fuel efficiency, renewable alternative fuels with lower carbon footprints, more efficient air traffic management, market-based measures and environmental regulations including an aircraft CO₂ standard. The U.S. has ambitious goals to achieve carbon-neutral growth for aviation by 2020 compared to a 2005 baseline, and to gain absolute reductions in GHG emissions by 2050. Presently, there are no calculations of the extent to which measures individually or cumulatively may affect aviation's CO₂ emissions. Moreover, there are large uncertainties regarding aviation's impact on climate. The FAA, with support from the U.S. Global Change Research Program and its participating federal agencies (e.g., NASA, NOAA, EPA, and DOE), has developed the Aviation Climate Change Research Initiative (ACCRI) in an effort to advance scientific understanding of regional and global climate impacts of aircraft emissions, with quantified uncertainties for current and projected aviation scenarios under changing atmospheric conditions⁴.

The FAA has determined that the Final EA and its supporting documentation, as incorporated, adequately assesses and discloses the environmental impacts of the proposed action for the purposes of this FONSI/ROD. Based on independent review of the airspace proposal, the FAA has determined there would be no significant cumulative impacts as a result of the Proposed Action.

Public Involvement

Notices of Availability (NOA) for public review of the draft EA and draft FONSI were published through a combination of electronic correspondence and published notices in local newspapers. The draft EA was available for public review on the internet, at local libraries, and at the WFF Visitor Center during the 30-day public and agency review period from July 1, 2016 and ended on August 1, 2016. NASA held two open house public information meetings at the WFF Visitor Center, one on August 4, 2016 and the other on August 11, 2016. Public and agency comments received during the 30-day comment period were incorporated into the Final EA as Appendix C.

Compliance with the National Environmental Policy Act

In accordance with the requirements set forth in the President's Council on Environmental Quality (CEQ) regulations (40 CFR Sections 1500-1508), which implement the procedural provisions of the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321), the FAA has made the following determination based on appropriate information and analysis set forth in the Final EA. The FAA has given this proposal an independent and objective evaluation required by the CEQ (40 CFR 1506.5). As described in the Final EA, the proposed action and its alternatives were studied extensively to determine potential impacts and appropriate mitigation measures. The FAA provided input, advice, and expert opinion throughout the planning and technical analysis, along with an administrative review of the project. The record shows that the FAA has fulfilled its responsibilities in connection with the environmental evaluation of this project from its inception and has maintained its objectivity in accordance with FAA Order 1050.1F.

⁴ Nathan Brown, et. al. *The US. Strategy for Tackling Aviation Climate Impacts*, (2010). 27th International Congress of the Aeronautical Sciences

After evaluation of the potentially reasonable and available alternatives, the Proposed Action is found to best achieve NASA's goals and objectives. No significant environmental impacts have been identified that would occur as a result of implementing the Federal Action. Therefore, the preparation of an Environmental Impact Statement is not required.

Incorporated by Reference

This FONSI/ROD incorporates the following information:

1. Final Environmental Assessment Addressing the Establishment of Restricted Area Airspace 6604C/D/E at Wallops Flight Facility dated September 2016
2. Final Environmental Assessment Errata Sheet for Technical Considerations dated October 2016

Adoption

In accordance with FAA Order 1050.1F, the FAA has conducted an independent evaluation and prepared this Record of Decision for the NASA Establishment of Restricted Area Airspace. The FAA has determined that the Final EA adequately assesses and discloses the environmental impacts of the Proposed Action.

Based on the FAA's independent evaluation, the Final EA is sufficient for adoption by the FAA and is hereby adopted. The FAA takes full responsibility for the scope and content that addresses FAA actions associated with the establishment of Restricted Area Airspace at WFF.

Finding

The FAA has determined that no significant impacts would occur as a result of the Proposed Action and therefore that preparation of an Environmental Impact Statement is not warranted and a Finding of No Significant Impact in accordance with 40 CFR Part 1501.4 (e) is appropriate.

Statement

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101(a) of the NEPA, as amended, and that it will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2) (C) of the NEPA.

Order and Right of Appeal

This Adoption of the Final EA and FONSI-ROD for the expansion of restricted airspace at Goddard Space Flight Center, Wallops Flight Facility, Wallops Island, Virginia constitutes a final order of the FAA Administrator pursuant to 49 U.S.C. § 40103 and is subject to exclusive judicial review under 49 U.S.C. § 46110 by the U.S. Circuit Court of Appeals for the District of Columbia or the U.S. Circuit Court of Appeals for the circuit in which the person contesting the decision resides or has its principal place of business. Any party having substantial interest in this order may apply for review of the decision by filing a petition for review in the appropriate U.S. Court of Appeals no later than 60 days after the date of this notice in accordance with the provisions of 49 U.S.C. § 46110. Any party seeking to stay implementation of the action as stated in the ROD must file an application with the FAA prior to seeking judicial relief as provided in Rule 18(a) of the Federal Rules of Appellate Procedure.

Decision and Approval

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101(a) of the NEPA, as amended, and other applicable environmental requirements. Public participation in the airspace circularization process for the Special Use Airspace proposal was conducted in accordance with FAA Order JO 7400.2K, and the comments received concerning potential impacts on aviation were considered and adequately addressed.

The undersigned has carefully considered the FAA’s statutory mandate under 49 U.S.C. 40103 to ensure the safe and efficient use of the national airspace system as well as the other aeronautical goals and objectives discussed in the Final EA. The undersigned concurs that the Proposed Action provides the best airspace proposal for meeting the needs stipulated in the Final EA, and that all practicable means to avoid or minimize environmental harm from that alternative have been adopted.

Accordingly, under the authority delegated to the undersigned by the Administrator of the Federal Aviation Administration, the undersigned approves and authorizes all necessary agency action to implement the proposed action.

This decision signifies that applicable Federal environmental requirements relating to the proposed action have been met. The decision enables the FAA to complete its rulemaking actions related to the above-described proposed action.

Approved: _____

Date: 10/31/2018

Leslie Swann, Manager
Airspace, Regulations, and ATC Procedures Group
Mission Support Service
Air Traffic Organization
Federal Aviation Administration