

MEMORANDUM OF UNDERSTANDING BETWEEN
THE 45th SPACE WING,
THE UNITED STATES FISH AND WILDLIFE SERVICE,
AND
JOHN F. KENNEDY SPACE CENTER
FOR
PRESCRIBED BURNING ON
THE MERRITT ISLAND NATIONAL WILDLIFE REFUGE,
JOHN F. KENNEDY SPACE CENTER,
AND
CAPE CANAVERAL AIR FORCE STATION, FLORIDA
LOCAL AGREEMENT NUMBER 15E-2-54
FORMAL AGREEMENT NUMBER FB2520-15XXX-654
NASA-KCA NO. 4205

This is a Memorandum of Understanding (MOU) between the 45th Space Wing (45 SW), the United States Fish and Wildlife Service (USFWS), and the John F. Kennedy Space Center (KSC). When referred to as collectively, the 45 SW, USFWS, and KSC are referred to as the "Parties."

1. BACKGROUND: Prescribed burning is defined as the intentional ignition of grass, shrub, or forest fuels for specific purposes according to predetermined conditions. Prescribed burning programs on Cape Canaveral Air Force Station (CCAFS) and KSC are an important natural resource management tool and provide many benefits including biological, ecological, environmental, and safety. Prescribed burns are conducted to enhance and restore wildlife habitats to prefire exclusion conditions, to promote and benefit threatened and endangered species that are dependent on fire adapted ecosystems, to aid in control of exotic plants, and to aid in control of vegetation or "hazardous fuel loads" to reduce wildfire threat and protect critical spaceflight infrastructure on CCAFS and KSC.

The objective of the United States Air Force (USAF) natural resource management program is to protect and manage vegetation, wildlife, and water resources as specified in Air Force Instruction 32-7064, Integrated Natural Resources Management. The 45 SW is required to conduct prescribed burns in accordance with the USFWS Biological Opinion to maintain scrub habitat for threatened and endangered species.

KSC is a Center of Excellence in the environmental stewardship and land management arena. KSC is located on Merritt Island National Wildlife Refuge (MINWR) which is managed by the USFWS through an Interagency Agreement with KSC (Kennedy Customer Agreement [KCA]-1649). The USFWS has the responsibility for wildland firefighting and prescribed burning on MINWR and KSC and to enforce Federal laws for the protection of species and their habitats.

This MOU describes the process employed by the 45 SW, USFWS, and KSC to achieve their mutual goals and provide greater opportunities for conserving and enhancing natural habitats through prescribed burns.

2. AUTHORITIES:

- 2.1. Intergovernmental Coordination Act (1968)
- 2.2. The National Aeronautics and Space Act of 1958 51 U.S.C. § 20113(e))
- 2.3. The Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-667e)
- 2.4. Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 et seq.)
- 2.5. Migratory Bird Act of 1918, as amended (16 U.S.C. § 703 et seq.)
- 2.6. National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. §§ 668dd-668ee)
- 2.7. The Sikes Act (1960), as amended, (16 U.S.C. § 670 a-f)

- 2.9. 45 SW Integrated Natural Resource Management Plan
- 2.10. 45 SW Wildland Fire Management Plan
- 2.11. Merritt Island National Wildlife Refuge Comprehensive Conservation Plan
- 2.12. Cooperative Assistance Agreement between the USFWS, Region 4, and the USAF, Air Force Center for Environmental Excellence
- 2.13. Intreagency Agreement between the National Aeronautics and Space Administration, John F. Kennedy Space Center and U.S. Department of the Interior, Fish and Wildlife Service for Use and Management of Property at NASA, John F. Kennedy Space Center known as The Merritt Island National Wildlife Refuge (KCA-1649)
- 2.14. USFWS Florida Scrub Jay Recovery Plan
- 2.15. USFWS Eastern Range Indigo Snake Recovery Plan

3. PURPOSE: The purpose of this MOU is to define and maintain a cooperative and coordinated process between the 45 SW, the USFWS, and KSC. This MOU defines prescribed burning roles and responsibilities on CCAFS, MINWR, and KSC to maximize prescribed burning opportunities within constraints of sensitive payloads and mission operations. This MOU allows KSC and the USFWS to have autonomy over conducting prescribed burns on MINWR and KSC and the 45 SW to have autonomy over conducting prescribed burns on CCAFS without impacting smoke-sensitive payloads or mission operations on either KSC or CCAFS.

4. UNDERSTANDINGS OF THE PARTIES:

4.1. All parties will adhere to the following general rules and restrictions regarding prescribed burning on CCAFS, MINWR, and KSC:

4.1.1. General Rules

4.1.1.1. No party will conduct a prescribed burn that is likely to place smoke on a previously identified smoke-sensitive processing facility or area that may negatively impact an operation or payload.

4.1.1.2. All parties are responsible for communicating to the Prescribed Burn Working Group (PBWG) any particular smoke-sensitive facility or operation that may require special consideration or restriction for conducting burns.

4.1.1.3. This MOU does not affect the Parties' ability to have or enter into agreements with entities that are not a party to this MOU that contain more or less restrictive prescribed burn criteria. In such cases, the Parties may follow such differing criteria so long as it does not impact the purpose of this MOU or the operations of the other Parties of this MOU.

4.1.2. Launch Operations Restrictions

4.1.2.1. No prescribed burning on CCAFS or KSC/MINWR 24 hours prior to a scheduled launch.

4.1.2.2. No prescribed burning on CCAFS or KSC/MINWR south of Haulover Canal 18 hours prior to a scheduled wet dress rehearsal and static fire.

4.1.3. Payload Transport Restrictions

4.1.3.1. No prescribed burning on CCAFS or KSC/MINWR within a 0.5-mile radius of a smoke-sensitive spaceflight hardware or payload transport route beginning five (5) days prior to the day of payload arrival and/or transport.

4.1.3.2. No prescribed burning on CCAFS or KSC/MINWR within a 1-mile radius of a smoke-sensitive spaceflight hardware or payload transport route beginning one (1) day prior to arrival and/or transport.

4.1.3.3. No prescribed burning on CCAFS or KSC/MINWR that will place smoke within a 1-mile radius of a smoke-sensitive spaceflight hardware or payload transport route on the day of arrival and/or transport. Restriction may be increased depending upon payload sensitivity as defined in official supporting documentation such as a Program Requirements Document (PRD).

4.1.4. Processing Facility and Launch Site Restrictions

4.1.4.1. No prescribed burning on CCAFS or KSC/MINWR which will place smoke within a 1-mile radius of identified critical spaceflight hardware in transit, a payload processing facility with smoke-sensitive flight hardware inside, or a launch site when a smoke-sensitive payload is present. Restriction may be increased depending upon payload sensitivity as defined in official supporting documentation such as a PRD. If the potential exists for smoke to be placed within the 1-mile radius, approval through the appropriate internal coordination process on CCAFS or KSC is required.

4.1.4.2. Any real-time changes to an active payload processing or launch site's ability to protect against smoke or particulate contamination, such as an unexpected failure or loss of facility power or HVAC, will be immediately reported and coordinated between the CCAFS Duty Office, KSC Duty Office, and USFWS, and prescribed burning will be restricted within a 2-mile radius to give reasonable time to correct.

4.2. All parties will adhere to the following communication and coordination for prescribed burning on CCAFS, MINWR, and KSC:

4.2.1. Participate in the 45 SW/USFWS/KSC PBWG. The PBWG exists for the purposes of general scheduling and coordinating of prescribed burning activities on CCAFS, MINWR, and KSC and will include membership of all relevant parties involved in the prescribed burning process.

4.2.2. Share tools associated with prescribed burns such as modeling capabilities, smoke particulate monitors, and educational and training opportunities.

4.2.3. Maintain and share working level documents that provide internal prescribed burning process details and operational-level schedules.

4.2.4. Immediately call 321-853-0911 for CCAFS fire department response or 321-867-7911 for KSC fire department response if a prescribed burn threatens to damage any CCAFS or KSC facilities, equipment or property.

4.3. The 45 SW will:

4.3.1. For prescribed burns located on CCAFS, the CCAFS Duty Office will initiate a for-information-only notification to the KSC Duty Office a minimum of three (3) business days in advance of when the burn will take place.

4.3.2. For prescribed burns located on CCAFS, the CCAFS Duty Office will initiate an internal CCAFS Go/No-Go request a minimum of three (3) business days in advance of when the burn will take place. The 45th Support Group, Det 1 Commander will have decision authority for any prescribed burn within the bounds of CCAFS.

4.3.3. For prescribed burns located on KSC/MINWR, the CCAFS Duty Office will acknowledge receipt of prescribed burn notifications to the KSC Duty Office upon receipt, but no later than 0800L 24 hours

(more time is preferable) prior to the day of the burn and distribute a for-information-only notification utilizing the CCAFS Prescribed Burn Distribution List.

4.3.4. Notify KSC via the Prescribed Burn Coordinator in the Customer Services and Integration Branch (SI-I1) within the Spaceport Integration and Services Directorate of any particularly smoke-sensitive facilities or operations on CCAFS that may require special consideration and procedures for prescribed burning within KSC/MINWR boundaries no later than 0800L 24 hours (more time is preferable) prior to the day of the burn.

4.3.5. Maintain a schedule of prescribed burn restrictions and share restrictions with KSC and USFWS.

4.3.6. CCAFS is authorized to increase restrictions for prescribed burning on CCAFS property as necessary for special payload and transport restrictions.

4.3.7. CCAFS not to conduct controlled burning within 200 feet of any explosives location and to close windows, doors, and ventilators of facilities containing explosives within 600 feet of burning operations as per Air Force Manual AFM91-201_AFSPCSUP 13 SEPTEMBER 2017.

4.3.8. Through the 45th Weather Squadron, provide weather planning and real-time support for all prescribed burning activities on KSC/MINWR and CCAFS and support both the Director of Spaceport Integrations and Services and the 45th Mission Support Group Detachment 1 Commander decision authorities.

4.4. KSC will:

4.4.1. For prescribed burns located on KSC/MINWR, the KSC Duty Office will initiate a for-information-only notification to the CCAFS Duty Office a minimum of three (3) business days in advance of when the burn will take place.

4.4.2. For prescribed burns located on KSC/MINWR, the KSC Duty Office will initiate an internal KSC notification and coordination request a minimum of three (3) business days in advance of when the burn will take place.

4.4.3. For prescribed burns located on KSC/MINWR, SI-I1 will provide the internal operational-level integration and coordination with all KSC programs and customers. The Director, Spaceport Integration and Services will have decision authority for any prescribed burn within the bounds of KSC.

4.4.4. For prescribed burns located on CCAFS, the KSC Duty Office will acknowledge receipt of prescribed burn notifications to CCAFS Duty Office upon receipt, but no later than 0800L 24 hours (more time is preferable) prior to the day of the burn and will distribute a for-information-only notification utilizing the KSC Prescribed Burn Distribution List.

4.4.5. Notify the CCAFS Duty Office via SI-I1 of any particularly smoke-sensitive facilities or operations on KSC that may require special consideration and procedures for prescribed burning within CCAFS boundaries no later than 0800L 24 hours (more time is preferable) prior to the day of the burn.

4.4.6. Maintain a schedule of prescribed burn restrictions and share restrictions with USFWS and 45 SW.

4.4.7. KSC is authorized to increase restrictions for prescribed burning on KSC property as necessary for special payload and transport restrictions.

4.5. USFWS will:

4.5.1. Submit a prescribed burn notification to the KSC Duty Office at least three (3) business days in advance of all desired burn operations. The following information will be provided in each notification:

4.5.1.1. Map display of proposed targeted units and locations (with scale).

4.5.1.2. Text description of the proposed targeted unit locations including total acres to be burned.

4.5.1.3. Date(s) of the proposed burn(s).

4.5.1.4. Any known smoke management considerations.

4.5.1.5. List of potential road closures which might result from prescribed burning activities.

4.5.2. On the day of the scheduled prescribed burn:

4.5.2.1. Select the appropriate burn unit from the submitted list of targets based upon the forecasted weather parameters and operational spaceflight criteria and restrictions listed in Section 4.1 including all subparagraphs.

4.5.2.2. Request a fire weather "spot forecast" for the specific selected burn site.

4.5.2.3. Conduct an on-site weather reading and "test fire" to validate proper weather conditions and smoke dispersion in compliance with the operational spaceflight restrictions listed in Section 4.1 including all subparagraphs.

4.5.2.4. If weather parameters or smoke dispersion conditions are not acceptable for the selected burn site per Section 4.1, the USFWS may:

4.5.2.4.1 Reduce the selected unit size to burn in smaller sections.

4.5.2.4.2 Select another targeted unit to burn where the conditions are acceptable per Section 4.1 including all subparagraphs.

4.5.2.4.3 Cancel any prescribed burn operations for the day.

4.5.2.5. Notify KSC Duty Office when prescribed burn operations begin.

4.5.2.6. Continuously monitor weather conditions during the burn.

4.5.3. Share research reports and publications, habitat restoration results, wildlife population census data, MINWR Conservation Plans, and general wildlife and habitat information with KSC and CCAFS.

5. PERSONNEL: Each Party is responsible for all costs of its personnel, including pay and benefits, support, and travel. Each Party is responsible for supervision and management of its personnel.

6. GENERAL PROVISIONS:

6.1. POINTS OF CONTACT: The following points of contact will be used by the Parties to communicate in the implementation of this MOU. Each Party may change its point of contact upon reasonable notice to the other Party.

6.1.1. For the 45 SW—

6.1.1.1 Primary: Installation Manager, 45 CES/CEI, and Environmental Conservation Chief,
45 CES/CEIE-C

6.1.1.2 Alternate: Wildland Fire Program Manager 45 CES/CEIE-C

6.1.2. For the USFWS—

6.1.2.1 Primary: MINWR Refuge Manager

6.1.2.2 Alternate: Deputy Refuge Manager

6.1.3. For KSC—

6.1.3.1 Primary: Prescribed Burn Coordinator in SI-I1

6.1.3.2 Alternate: KSC Master Integrator in SI-I1

6.2. CORRESPONDENCE: All correspondence to be sent and notices to be given pursuant to this
MOU will be addressed, if to the 45 SW, to—

6.2.1.

Michael Blaylock
45 CES/CEIE-C
1224 Jupiter Street
Patrick AFB, FL 32925

michael.blaylock.4@us.af.mil

and, if to the USFWS, to—

6.2.2.

Layne Hamilton
Merritt Island NWR
PO Box 2683
Titusville FL 32781

layne_hamilton@fws.gov

and, if to KSC, to—

6.2.3.

Eric Haberle
Mail Code: SI-I1
National Aeronautics and Space Administration
John F. Kennedy Space Center
Kennedy Space Center, FL 32899

eric.haberle@nasa.gov

6.3. FUNDS AND MANPOWER: This MOU does not document nor provide for the exchange of funds or manpower between the Parties nor does it make any commitment of funds or resources.

6.4. MODIFICATION OF MOU: This MOU may only be modified by the written agreement of the Parties, duly signed by their authorized representatives. This MOU will be reviewed annually on or around the anniversary of its effective date, and triennially in its entirety.

6.5. DISPUTES: Any disputes relating to this MOU will, subject to any applicable law, Executive Order, directive, or Instruction, be resolved by consultation between the Parties or in accordance with DoDI 4000.19.

6.6. TERMINATION OF UNDERSTANDING: This MOU may be terminated in writing at will by either party.

6.7. TRANSFERABILITY: This MOU is not transferable except with the written consent of the Parties.

6.8. ENTIRE UNDERSTANDING: It is expressly understood and agreed that this MOU embodies the entire understanding between the Parties regarding the MOU's subject matter.

6.9. EFFECTIVE DATE: This MOU takes effect beginning on the day after the last Party signs.

6.10. EXPIRATION DATE: This MOU expires on April 11, 2025.

6.11. CANCELLATION OF PREVIOUS MOU: This MOU cancels and supercedes the previously signed MOU between the same parties with the subject of Prescribed Burning on the Merritt Island National Wildlife Refuge, John F. Kennedy Space Center, and Cape Canaveral Air Force Station, Florida and effective date of 12 April 2016.

APPROVED:

FOR THE 45 SW—

FOR KSC—

[REDACTED]
Brigadier General, USAF
Commander, 45th Space Wing

[REDACTED]
Director, Spaceport Integration and Services
John F. Kennedy Space Center

[REDACTED]
Date

[REDACTED]
Date

FOR THE USFWS—

[REDACTED]
Refuge Manager
Merritt Island National Wildlife
Refuge Complex