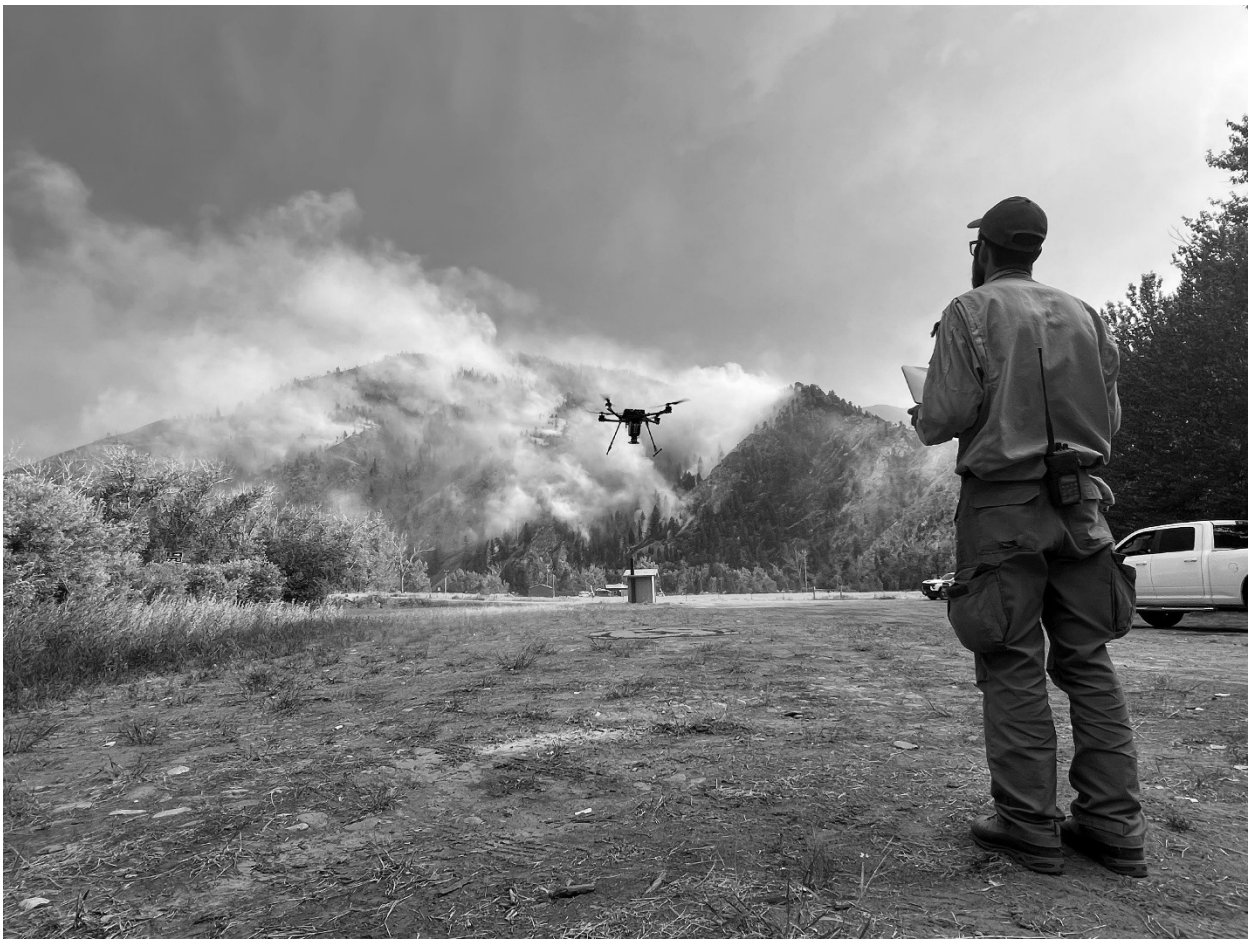
A publication of the
National Wildfire Coordinating Group

NWCG Incident Position Standards for Unmanned Aircraft Systems Pilot

PMS 350-78 JULY 2025



NWCG Incident Position Standards for Unmanned Aircraft Systems Pilot

July 2025
PMS 350-78

The *NWCG Incident Position Standards for Unmanned Aircraft Systems Pilot* establishes national interagency standards for operating as an Unmanned Aircraft Systems Pilot (UASP) on wildland fires. These standards are meant to ensure safe, efficient, and effective operations in support of interagency goals and objectives and should serve as a guide to promote effective and consistent on-incident training. By definition, NWCG standards encompass guidelines, procedures, processes, best practices, specifications, techniques, and methods.

The Unmanned Aircraft Systems Pilot Position Page, https://www.nwcg.gov/positions/unmanned-aircraft-system-pilot, in the NWCG position catalog, includes the Incident Position Description (IPD) and Position Qualification Requirements, as well as links to standards and references needed to perform the duties of a Unmanned Aircraft Systems Pilot.

Tasks that are identified by a (*) are those tasks included for evaluation in the Position Task Book (PTB). Tasks not identified for evaluation in the PTB still represent standards for successful performance in the position and should be included in a comprehensive training assignment.

Where references are identified by a (**), refer to your home unit, agency, or organization for specific guidance and policy documentation. For example:

***Interagency Standards for Fire and Fire Aviation Operations* (Red Book)

The National Wildfire Coordinating Group (NWCG) provides national leadership to enable interoperable wildland fire operations among federal, state, Tribal, territorial, and local partners. NWCG operations standards are interagency by design; they are developed with the intent of universal adoption by the member agencies. However, the decision to adopt and utilize them is made independently by the individual member agencies and communicated through their respective directives systems.

Table of Contents

General References

- *10 Standard Firefighting Orders*, PMS 110, https://www.nwcg.gov/publications/pms110
- *18 Watch Out Situations*, PMS 118, https://www.nwcg.gov/publications/pms118
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, https://www.nwcg.gov/publications/pms461
- *NWCG Standards for Aerial Ignition*, PMS 501, https://www.nwcg.gov/publications/pms501
- *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503, https://www.nwcg.gov/publications/pms503
- *NWCG Standards for Aerial Supervision*, PMS 505, https://www.nwcg.gov/publications/pms505
- *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515, https://www.nwcg.gov/publications/pms515
- *NWCG Standards for Airspace Coordination*, PMS 520, https://www.nwcg.gov/publications/pms520
- *NWCG Standards for Aviation Risk Management*, PMS 530, https://www.nwcg.gov/publications/pms530
- *NWCG Aviation Risk Management Workbook*, PMS 530-1, https://www.nwcg.gov/publications/pms530-1
- *NWCG Standards for Wildland Fire First Aid*, PMS 560, https://www.nwcg.gov/publications/pms560
- *NWCG Standards for Interagency Incident Business Management*, PMS 902, https://www.nwcg.gov/publications/pms902
- Incident Command System (ICS) Forms, https://www.nwcg.gov/ics-forms
  - Medical Plan and Medical Incident Report (ICS 206 WF)
  - General Message (ICS 213)
  - Activity Log (ICS 214)
  - Demobilization Check-Out (ICS 221)
  - Incident Personnel Performance Rating (ICS 225 or ICS 225 WF)
- Standard (SF) and Optional (OF) Forms, https://www.nwcg.gov/publications/pms902
  - Crew Time Report (CTR), SF 261
  - Incident Time Report, OF 288
- Job Aids, https://www.nwcg.gov/training/job-aids
  - *PSM-001, How to Correctly Fill Out the Crew Time Report (CTR), SF 261*, J-001
  - *Packing List for Wildland Fire Support Staff*, J-102
- 14 Code of Federal Regulations (CFR) Part 89 – Remote Identification of Unmanned Aircraft, https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-89
- 14 Code of Federal Regulations (CFR) Part 91 – General Operating and Flight Rules, https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-91
- 14 Code of Federal Regulations (CFR) Part 107 – Small Unmanned Aircraft Systems, https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-107
- Area Planning, Military Training Routes, North and South America (AP/1B)[1]
- Area Planning, Special Use Airspace, North and South America (AP/1A)[1]

[1] These references are maintained by the Department of Defense. Guidance on accessing these sites is provided to UASP personnel during formal training and is not managed by NWCG.

- Federal Aviation Administration (FAA), Pilot Handbook of Aeronautical Knowledge, https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak
- Flight Service, https://www.1800wxbrief.com/
- Interagency Resource Ordering Capability (IROC), https://www.wildfire.gov/application/iroc
- Mission Aviation Safety Plan (MASP), https://gacc.nifc.gov/swcc/dc/azpdc/operations/documents/aircraft/forms/Mission%20Aviation%20Safety%20Plan.docx
- National Interagency Fire Center (NIFC) File Transfer Protocol (FTP) Server, https://ftp.wildfire.gov/
- Project Aviation Safety Plan (PASP), https://www.nps.gov/subjects/aviation/upload/RM60_Appendix-3_Project-Aviation-Safety-Plan-508.pdf
- SAFECOM, https://www.safecom.gov/
- SAFENET, https://safenet.nifc.gov/
- Special Governmental Interest (SGI) Waiver, https://www.faa.gov/uas/advanced_operations/emergency_situations
- Transportation Security Administration (TSA) Prohibited Items, https://www.tsa.gov/travel/security-screening/whatcanibring/all
- Unmanned Aircraft Systems Facility Maps (UASFM), https://www.faa.gov/uas/commercial_operators/uas_facility_maps
- U.S. General Services Administration (GSA) Travel Resources, https://www.gsa.gov/travel

Agency-Specific References

- ***Department of the Interior (DOI) Use of Unmanned Aircraft Systems (UAS)*, OPM 11 https://www.doi.gov/sites/default/files/documents/2025-01/opm-11_0.pdf
- ***Forest Service Standards for UAS Operations*, https://www.fs.usda.gov/sites/default/files/2024-04/Standards-for-UAS-Operations.pdf
- **Interagency Unmanned Aircraft System (UAS) Program, https://uas.nifc.gov
    - Remote Pilot Toolbox
- ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book), https://www.nifc.gov/standards/guides/red-book
- ***National Interagency Standards for Resource Mobilization*, https://www.nifc.gov/nicc/logistics/reference-documents
- ***National Incident Radio Support Cache (NIRSC) User's Guide*, https://www.nifc.gov/resources/NIICD/niicd-documents

*Leadership Level 2, New Leader (Convey Intent)

A new leader begins transitioning from a follower to a leader of small groups to achieve a common goal. They begin to implement team cohesion, accept responsibility for self and team, and apply effective communications. For additional information, review the Level 2 description, expected behaviors and knowledge, suggested development goals, and self-study opportunities https://www.nwcg.gov/committee/leadership-committee/leadership-levels.

Description

- Proficient at leadership values and principles.
- Understand transition challenges for new leaders, situational leadership, team cohesion factors, ethical decision making, and debriefing techniques.
- Lead by example.
- Lead small groups to achieve common goals, objectives, and tasks.

Behaviors

- Demonstrates accountability for personal and team performance to build trust and establish positive team environment.
- Applies knowledge of leadership traits to lead small teams.
- Promotes team cohesion for new and existing team members and create an environment for effective communication.
- Solicits questions, both up and down chain of command, in order to learn from others.
- Applies a risk management process to ensure safety of self and team members.

Knowledge

- Utilize leadership traits to identify developmental needs in self and others.
- Describe situational leadership to understand application of appropriate leadership styles.
- Understand how wildland fire leadership values, principles, and traits inform ethical decision making.
- Understand how task, purpose, and end state are used to deliver leader's intent.
- Apply self-assessment tools to identify improvement gaps.
- Practice self-care and team-care.
- Knowledge of basic format to conduct a post-incident debriefing.
- Knowledge of the components of an operational briefing to deliver a simple assignment briefing.
- Knowledge of human factors and environmental barriers to communication.
- Knowledge of organizational structures (Incident Command System [ICS] and agency).
- Identify the sources of power which enable leadership influence.

Prepare and Mobilize

*Ensure individual readiness.

When to start task: Prior to assignment.

Resources to complete task: 14 CFR Part 91 – General Operating and Flight Rules; 14 CFR Part 107 – Small Unmanned Aircraft Systems; agency-specific standards; ***DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; ***Forest Service Standards for UAS Operations*.

How to accomplish task:

- Ensure all formal training requirements for remote pilots are met and maintained, including the following:
  - 14 CFR Part 107 recertification every two years
  - Agency-specific training and refreshers (e.g., A-452R)
  - RT-373, Unmanned Aircraft System (UAS) Incident Operations Refresher every three years
- Ensure flight proficiency and currency requirements meet agency standards, including payload training, if applicable.
- Ensure mission-specific training is completed for the following topics:
  - Beyond visual line of sight (BVLOS) and extended visual line of sight (EVLOS)
  - Night flying
  - Automated flight planning and execution
  - Payload-specific flight planning and execution
- Ensure remote pilot qualifications are current, accurate, and documented appropriately.
- Ensure Incident Qualification Card (Red Card) is current and accurate.
- Verify your status is current in resource ordering applications (e.g., IROC).

*Obtain and assemble information and materials needed for kit.

When to start task: Prior to the assignment.

Resources to complete task: *IRPG*; *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; *NWCG Standards for Airspace Coordination*, PMS 520; 14 CFR Part 107 – Small Unmanned Aircraft Systems; ***DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; ***Forest Service Standards for UAS Operations*; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book); ***Interagency Unmanned Aircraft Systems (UAS) Program Toolbox*.

How to accomplish task:

- Prepare and organize information and material required for a UAS assignment, including the following:
  - Aircraft, sensors, payloads, ground control station (GCS)/tablet and other system equipment
  - Maintenance and repair kits, including spare parts
  - Cleaning kits and supplies
  - User guides and technical manuals
  - Peripheral equipment (e.g., charging devices, cords, cases)

- Gather and organize the following personal and system credentials:
  - FAA Remote Pilot License
  - Agency-approved Remote Pilot Card
  - Agency-approved Aircraft Card
  - Incident Qualifications Card (Red Card)
- Gather computer/processing hardware and software such as the following:
  - Laptop
  - External storage devices
  - Connection adapters and cords
  - Required software
  - Power banks
  - Peripheral displays (e.g., monitors, televisions)
- Gather the following communications equipment:
  - Very high frequency (VHF)-frequency modulation (FM) radio
  - VHF-amplitude modulation (AM) radio (victor or aviation band)
  - Cell phone
  - Cellular or satellite hotspot
- Consider transportation options suitable for assignments, including the following:
  - Ground transportation options including vehicles, trailers, and/or off-highway vehicles (OHVs)
  - Air transportation options including considerations for battery restrictions, electronics considerations, and other hazardous material transport by aircraft
  - Shipping of systems and/or support equipment
- Maintain availability of support equipment such as the following:
  - Power management equipment (e.g., generators, fuel, electrical cords, power strips, adapters, system cords)
  - Crew comfort essentials (e.g., tables, chairs, sunshade, cooler, camping gear, drinking water)
  - Safety equipment (e.g., first aid kit, fireline tools, personal protective equipment [PPE], fire extinguisher)
- Assemble a personal fireline kit per the *Interagency Standards for Fire and Fire Aviation Operations* (Red Book) which contains critical items needed for functioning during the first 48 hours. Ensure the kit is easily transportable and within agency weight limitation. Suggested kit items include the following:
  - Policy guides and documents
    - *NWCG Position Task Book for Unmanned Aircraft Systems Pilot (UASP)*, PMS 311-78
    - *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461
    - *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503
    - *NWCG Standards for Aerial Supervision*, PMS 505
    - *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515
    - *NWCG Standards for Airspace Coordination*, PMS 520
    - *NWCG Standards for Interagency Incident Business Management*, PMS 902
    - ***National Interagency Standards for Resource Mobilization*
    - ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book)
    - Applicable agency-specific operations guide
    - Radio frequency guide

- Forms
  - Crew Time Report (CTR), SF 261
  - Incident Time Report, OF 288
  - SGI waiver
  - Notice to Airmen (NOTAM)
  - Low Altitude Authorization and Notification Capability (LAANC)
  - Travel log
  - General Message (ICS 213)
  - Agency-specific forms (e.g., Injury and Workers' Compensation, accident forms)
- UAS and aviation documents
  - Flight organizer
  - Flight log
  - Flight risk assessment tool (FRAT)
  - Certificates of Authorization (COAs)
  - Checklists (briefing and aircraft)
  - Scripts
  - Visual observer (VO) best practices
  - UAS mishap response checklist
- Other suggested items
  - Belt weather kit
  - Compass and signal mirror
  - Global positioning system (GPS) unit
  - Phone list
  - Credit card
  - Pocket calendar
  - Pocket notepad
  - Assorted pens, pencils, and highlighters
  - Maps and/or atlas
  - Flagging
  - Calculator
  - Flashlight with extra batteries
  - Alarm clock
  - Binoculars
  - Watch
  - Fiber tape
  - Satellite phone or beacon
  - Automatic dependent surveillance-broadcast (ADS-B) receiver

*Gather critical information pertinent to the assignment.

When to start task: Upon receipt of assignment.

Resources to complete task: *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; 14 CFR Part 91 – General Operating and Flight Rules; 14 CFR Part 107 – Small Unmanned Aircraft Systems; resource order; NIFC FTP (Incident Action Plan [IAP], maps); applicable manuals (aircraft, payloads); applicable Visual Flight Rules (VFR) Sectional (e.g., Sectional Aeronautical Chart); ***Interagency Unmanned Aircraft System (UAS) Program Toolbox*; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book); ***National Interagency Standards for Resource Mobilization.*

How to accomplish task:

- Access and review the resource order, as appropriate. Ensure the resource order contains the following information as a baseline:
    - Incident/project name
    - Incident/project order number
    - Financial codes
    - Descriptive location
    - Legal location (e.g., section, township, range)
    - Incident frequencies (if available)
    - Incident base/phone number
    - Request number
    - Reporting date/time and location
    - Special instructions (e.g., authorized equipment, laptop, cell phone)
    - Special needs (e.g., UAS hardware, software)
- If practical, contact the incident supervisor to gather basic assignment information, including the following:
    - Incident reporting location
    - Expected mission objectives and tasking
    - Planned operational timeframes
    - Logistical considerations
- Consider the following specifics pertinent to UAS operations and take appropriate actions to fulfill these requirements or clarify needs:
    - Transportation and lodging arrangements and requirements
    - Equipment requirements and special needs
    - UAS platform, hardware, and software requirements
    - Radio frequencies
    - Incident and aviation contacts (if available)
    - Airspace information, including the nearest airport and temporary flight restriction (TFR) specifics
    - Assigned aerial resources (other than UAS) and locations
- Gather and review information regarding the airspace, TFRs, flight hazards, and incident maps (if applicable).
- Complete requirements for an SGI waiver under provisions of the airspace and flight authorization.
    - Note analysis of general terrain, vegetation, weather, and flight hazards may affect preparation and mission planning for the assignment.

Travel to and check in at the assignment base of operations and with the supervisor.

When to start task: Upon receipt of assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515, *NWCG Standards for Interagency Incident Business Management*, PMS 902; resource order; Incident Qualifications Card (Red Card); agency-specific crew manifest; TSA prohibited items; GSA per diem rates; ***National Interagency Standards for Resource Mobilization.*

How to accomplish task:

- Determine crew and UAS equipment transportation requirements.
- Coordinate the following travel details as necessary:
    - Mode of travel
        - Ensure your rental, National Emergency Rental Vehicle (NERV), or personal vehicle is on the resource order, if applicable.
    - Estimated time of departure (ETD) and location of departure
    - Estimated time of arrival (ETA) and location of destination
- Determine location for rest overnight (RON) if you are unable to make end destination within operational shift.
- Follow agency-specific air and ground travel guidelines.
    - Air travel considerations
        - Comply with weight limitations.
            - ❖ If your baggage exceeds airline limitations, additional fees may apply.
        - Check bags for TSA-prohibited items.
        - Consider UAS battery limitations for commercial air travel.
    - Ground travel considerations
        - Follow time limitations/driver duty day limitations.
        - Consider logistical needs (e.g., restrooms, restaurants).
        - Ensure secure transportation of government equipment.
        - Reference GSA website for per diem and lodging rates.
            - ❖ Check with the supervisor, Fire Management Officer (FMO), or Fire Business Office for guidance on providing justification when rates exceed per diem allowances.
- Manage travel logistics, including the following:
    - Driving standards
    - Lodging
    - Fuel
    - Bathroom breaks
    - Roadside emergency
    - Traffic
    - Weather
- Model professionalism and a professional attitude.
    - Wear attire that reflects positively on the agency you represent.
    - Consider a normal daily working uniform.
- Notify your supervisor and dispatch of travel plans as appropriate.
- Upon incident arrival, complete the check-in process as described in the IAP or as provided by the Status/Check-In Recorder (SCKN) or person designated on the resource order. Be prepared with the resource order, Incident Qualifications Card (Red Card), and agency-specific agreement sheet.

Build the Team

*Establish and communicate chain of command, reporting procedures, risk management processes, radio frequency management, and aviation operational strategy.

When to start task: Upon arrival at the incident.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; NIFC FTP (IAP, maps); UAS flight organizer.

How to accomplish task:

- Assemble team members of UAS module.
- Exchange contact information.
- Take inventory of communication devices including radios, phones, and wireless connectivity.
- Establish communication expectations, roles, and responsibilities.
- Verify aircraft and payload capabilities are appropriate for the assignment.
    - Ensure proper carding/registration of the UAS.
    - Ensure remote pilot(s) are current and carded for expected mission.
    - Verify aircraft airworthiness and maintenance standards.
    - Determine remote pilot flight and duty limitations as stated in agency policy.
- Determine accurate logistical needs for UAS module and use established ordering procedures.
- Review applicable operations standards and protocols.
- Review radio communications plan and clone radios.
- Coordinate additional UAS assignment elements as necessary.
    - Confirm status of SGI waiver.
    - Submit additional support requests.
- Contact the geographic UAS coordinator/UAS aviation point of contact to:
    - Review regional and national aviation mishap response plan.
    - Identify SAFECOM process with geographic UAS coordinator.
    - Obtain status update/future of UAS on assignment.

*Establish a common operating picture with supervisor and subordinates.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Aerial Supervision*, PMS 505; *NWCG Standards for Helicopter Operations*, PMS 510; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; FTA protocol; flight organizer; IAP.

How to accomplish task:

- Participate in a briefing with incident supervision.
    - Review the IAP.
        - Validate accuracy of the Air Operations Summary (ICS 220).
    - Review incident objectives.
    - Receive tasking from incident supervisor and establish the chain of command.
    - Determine required meeting/briefing attendance.
    - Establish hours of operation.
    - Confirm communication protocols/procedures.

- Communicate the following UAS specifics to leadership:
  - Capabilities and limitations of available UAS
  - Logistical needs
  - Personnel needs
- Ensure all UAS module members understand the following:
    - General scope of the mission (data requirements)
    - Incident descriptive location
    - Aerial resources assigned
    - Radio frequencies
    - Airspace considerations
      - Controlled
      - Uncontrolled
      - Special use
      - Other (e.g., regulated airspace, unregulated airspace)
    - Airspace authorizations
    - Communication protocols/procedures

*Establish team cohesiveness and accountability utilizing effective Crew Resource Management (CRM).

When to start task: Upon receipt of and throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; FRAT; NIFC FTP (IAP, maps); ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book).

How to accomplish task:

- Utilize CRM principles to maximize the collective skill set of the UAS module.
  - Establish clear roles and responsibilities.
  - Encourage active participation in the decision-making process.
  - Adjust actions based on changing information and evolving situational awareness.
  - Integrate individual skillsets to enhance production.
  - Monitor, recognize, and address stress and fatigue in other team members.
- Establish cohesiveness among the UAS module members.
  - Provide for open communication.
  - Seek commitment for completing the mission.
  - Set expectations for accountability.
  - Focus on the team result.

*Attend incident briefings, coordinate with other aviation units, and obtain Incident Action Plans (IAPs), relevant plans, and incident maps for the duration of the incident.

When to start task: Throughout the assignment.

Resources to complete task: *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; NIFC FTP.

How to accomplish task:

- Obtain IAP, maps, and/or other necessary incident documentation as required.
    - In most cases, utilize online sources such as NIFC FTP.
- Attend or delegate attendance for incident briefings as required or directed by supervision.
- Contact and verify coordination procedures with critical incident participants including the following:
    - Aerial supervision
    - Dispatch
    - Helibase
    - Communications Unit
    - Other incident aircraft managers and pilots
    - Other Incident Management Team (IMT) leadership

*Establish and communicate objectives, priorities, work assignments, and performance expectations. Identify, analyze, and use relevant situational information to make informed decisions and take appropriate actions.

When to start task: After receiving the operational briefing and reviewing the IAP.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; NIFC FTP (IAP, maps).

How to accomplish task:

- Establish production requirements for the UAS mission with appropriate personnel.
    - Determine the decision or action requiring UAS assistance and establish mission objectives.
    - Convey UAS capabilities, limitations, and operational requirements specific to the situation.
    - If needed, establish data management procedures, including delivery method(s) and timeframe.
    - Develop basic execution plan with requesting personnel and UAS module.

Perform Unmanned Aircraft Systems Pilot-Specific Duties

*Adjust actions based on changing information and evolving situational awareness, develop and implement contingency plans, and communicate changing conditions to assigned resources and the supervisor.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; FRAT; NIFC FTP (IAP, maps).

How to accomplish task:

- Ensure the Risk Management Process is established and maintained in accordance with *NWCG Standards for Fire Unmanned Aircraft Systems Operations,* PMS 515.
    - Identify operational hazards.
    - Assess the degree of risk relative to the mission perspective.
    - Mitigate hazards through actions.
    - Demonstrate use of job aids (e.g., FRAT, operations checklists, mission planning worksheets) as required for risk management.

*Ensure the UAS aircraft and payload are mission-appropriate and the UASP is qualified, current, and proficient for the system and mission.

When to start task: Upon receipt of resource order.

Resources to complete task: *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; 14 CFR Part 107 – Small Unmanned Aircraft Systems; FAA COAs; ** *agency-specific directives*

How to accomplish task:

- Validate operational capabilities of the UAS, payload, and pilot including the following:
    - Appropriate UAS platform for the expected mission(s)
    - Appropriate sensors for the expected mission(s)
    - Proper carding of system(s) and remote pilot(s)
    - System maintenance cycle enabling assignment fulfillment (e.g., sufficient time before next scheduled maintenance)

*Coordinate travel to and from fireline (e.g., travel routes, check-in with the Division/Group Supervisor [DIVS], communication procedures, accountability).

When to start task: Prior to traveling to and from fireline.

Resources to complete task: *IRPG*; standard operating guidelines (SOGs); NIFC FTP (IAP, maps, travel plan); resource ordering applications (e.g., IROC); local standard operating procedures (SOPs); resource order; travel directions to fireline from supervisors; directions to fireline from other resources on incident.

How to accomplish task:

- Consider travel factors relative to the UAS assignment, including the following:
    - Fire behavior and expected fire behavior affecting travel

  - Identification of ingress and egress routes
  - Conditions of roads, bridges, and potential obstacles
  - Vehicle capabilities and limitations
  - Equipment weight and length
  - Weather effects
  - Operational tempo on roadways
  - Driving duty daily limitations
- Check with supervisor on SOPs and any special coordination requirements for the assignment such as the following:
  - One-way, narrow, or hazardous roads
  - Radio notifications or check-in locations before driving on specific roads
  - Equipment operations in the area (e.g., chippers, dozers, logging)
- Assess driving skillsets of module members relative to vehicles and the environment; develop travel plans accordingly. Factors to consider include the following:
  - Familiarity with large vehicles and trailers
  - Operations in poor visibility or at night
  - Vehicles with radio capabilities

*Survey the area of responsibility to assess the feasibility of assigned objectives, locate potential landing and recovery zones (LRZs), and identify flight hazards.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; NIFC FTP (IAP, maps, travel plan).

How to accomplish task:

- Assess mission area of responsibility (AOR) for feasibility of assigned objectives, identify flight hazards, locate potential LRZ, and evaluate access and safety.
  - Evaluate potential for obstructions and obstacles to affect flight launch, recovery, connectivity, and control.
  - Assess LRZ and control site for emergency action plan.
  - Assess the feasibility of logistical support, including accessibility, if needed.
  - Utilize LCES.
- Determine assignment airspace and authorization requirements and coordinate as appropriate, including the following:
  - FAA sectional review of expected operations area
  - TFR status and number verified
  - Appropriate COA identified, reviewed, and on hand
  - SGI waiver application or update completed and on hand
  - Relevant airspace control agency and contact information (e.g., ATC, military range control) identified and on hand
  - Other coordination elements as needed
    - NOTAM
    - Dispatch/helibase communication
    - Incident aviation communication
    - Air Operations Branch Director (AOBD) communication

*Ensure UAS flight crew mission, pre-flight, and pre-takeoff responsibilities are completed as outlined by policy, system checklists, and any mission-specific directives and adhere to *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515.

When to start task: When the Operational Briefing has concluded and the crew is preparing to execute flight on the incident.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; NIFC FTP (IAP, maps, travel plan); FRAT; systems pre-flight checklists; applicable manuals (aircraft, payload).

How to accomplish task:

- Ensure UAS mission planning responsibilities are completed.
    - For the aircraft, ensure the system is fully operational, appropriate, and capable of the mission.
    - For the pilot, ensure the remote pilot-in-command (RPIC) and crew are proficient and capable of fulfilling the final product, the CRM plan is communicated, and PPE and safety measures are in place.
    - For authorization, ensure mission objectives and final product are clear and understood; ensure mission is authorized by the Agency Administrator (AA) and Incident Commander (IC).
    - For the airspace, ensure communications are established, LRZs are identified, the deconfliction plan and protocols are identified for mission per policy, other aircraft, and situation.
- Ensure UAS flight planning requirements are fulfilled.
    - Ensure aircraft are configured using a pre-flight checklist, operations normal.
    - Ensure the RPIC and crew have been briefed and are prepared for flight and CRM principles are implemented.
    - Confirm authorization for airspace and mission.
    - Ensure flight factors and risks are assessed and mitigated (e.g., weather, situation, fire behavior) and LCES are in place.
    - Ensure the airspace temporal, horizontal, and vertical deconfliction plan is in place and actively deconflict, as necessary.
        - See and avoid conflicts.
        - Identify and plan for flight hazards.
        - Account for military aviation operations (e.g., MOAs, MTRs, restricted areas).
    - Test and confirm communications (e.g., AM radios, FM radios, cellular phones, satellite phones).
    - Coordinate with dispatch, helibase, aircraft, and ground personnel in the area.
    - Record launch coordinates (e.g., latitude, longitude, decimal degrees [DD], degrees decimal minutes [DDM]).
- Utilize the aircraft system checklist applicable for pre-flight and pre-takeoff steps and responsibilities.

*Plan for data collection and processing according to the mission requirements and agency data management policies.

When to start task: Upon receipt of resource order and throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; NIFC FTP (IAP, maps, travel plan); data organizer job aid; ***Interagency Unmanned Aircraft System (UAS) Program Toolbox*.

How to accomplish task:

- Ensure a data management plan is established.
    - If utilized, follow the established folder outline from the UAS incident data structure reference document, including separate sensor data organization.
    - If a pre-established data structure is not available, set a structure that outlines:
        - When
        - Where
        - What
    - Utilize an established, standard naming convention protocol.
    - Provide metadata when necessary.
    - Consider direction or preferences provided by incident data managers.
- Check that data transfer from the UAS to a data management device is feasible.
    - Ensure all cables, card readers, and storage devices are operational.
    - Ensure UAS data can be transferred to and from, viewed, and managed on intended devices.
    - Ensure ample storage is available and meets data security requirements.
    - Format and clear storage devices as necessary.
- Establish roles, responsibilities, timelines, and data quality check procedures.
    - Designate a lead data steward.
    - Set data delivery timelines and milestones.
    - Designate primary and backup storage locations.
- Determine data processing capabilities and limitations.
    - Identify the hardware, software, and skillsets of the module.
    - Establish estimated processing timelines.

*Perform post-mission duties and plan for the needs of the next operational period.

When to start task: At the end of the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; 14 CFR Part 107 – Small Unmanned Aircraft Systems; flight organizer.

How to accomplish task:

- Ensure all assignment, mission, and flight planning considerations and coordination have occurred.
- Collect and prepare UAS data, imagery, and flight telemetry for final product delivery.
    - Download files from sensors and/or data collection devices.
    - Organize and name files using standard or prearranged protocols.
    - Create file backups.
    - Edit and annotate final products to facilitate transition from data to information.

  - Quality check the final product development against the mission objectives and customer requirements.
  - Manage data in accordance with agency data management policies.
- Deliver the final product per customer requirements and plan.
  - Utilize the most appropriate and efficient delivery method.
  - Confirm receipt of the final product.
  - Solicit and incorporate feedback for the next mission.

*Identify and anticipate operational and logistical needs, and request additional resources and/or replacements as needed.

When to start task: Upon assignment and throughout the incident.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; flight organizer; operational briefing.

How to accomplish task:

- Identify the type of UAS mission(s) requested (e.g., situational awareness, mapping).
  - Determine equipment needed to complete tasks to meet objectives.
  - Validate operational capabilities of the UAS, payload, and pilot.
  - Ensure the appropriate UAS platform for the expected mission(s).
  - Ensure appropriate sensors are used for the expected mission(s).
  - Ensure proper carding of system(s) and remote pilot(s).
  - Confirm the system maintenance cycle will enable assignment fulfillment (sufficient time before next scheduled maintenance).
- Identify and plan for logistical and support needs.
  - Assess and provide for electrical generation and storage needs.
  - Evaluate the need for additional equipment commensurate with changes in mission.
  - Identify secure locations for equipment staging.
  - Confirm the medevac plan.
- Communicate needs to the supervisor.
  - The supervisor (e.g., IC, Division/Group Supervisor [DIVS], Unmanned Aircraft Systems, Manager [UASM], Unmanned Aircraft Systems, Module Leader [UASL]) is responsible for mission planning, and equipment ordering/accountability.
  - Communication between the supervisor, UASP, VO, and other fireline personnel is critical for safety, meeting tactical objectives, and identifying needs.
- Determine and utilize the most appropriate and efficient delivery method of the final product per customer requirements.
- Ensure aircraft and equipment used are refurbished appropriately for continuing mission preparedness.
  - Refer to the Logistical Considerations section of the *IRPG*.
  - Ensure you have logistical needs met before critical shortages occur.
    - Order food, water, and supplies well in advance of the need.

*Execute UAS operations based on incident objectives, leader's intent, and fire behavior in observance of Federal Aviation Administration (FAA), interagency, and agency policy and adhere to *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515.

When to start task: At the end of the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; 14 CFR Part 91 – General Operating and Flight Rules; 14 CFR Part 107 – Small Unmanned Aircraft Systems; flight checklist; mission organizer; aircraft manuals; local and agency policy; **DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; ***Forest Service Standards for UAS Operations*; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book).

How to accomplish task:

- Ensure all assignment, mission, and flight planning considerations and coordination have occurred.
- Conduct operations in compliance with the following applicable aviation directives:
    - *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515
    - FAA regulations and policy
    - Airspace authorization
    - Departmental and agency operations guidance for:
        - Night flying
        - BVLOS operations
        - Work/rest policy
- Follow established procedures, checklists, communications protocols, and best practices for each flight execution phase, including the following:
    - Pre-takeoff
    - Takeoff
    - Flight
    - Landing
    - Post-landing
- Ensure UAS performs to meet objectives and production requirements.
    - Execute the operation as planned and authorized.
    - Optimize the system for the environmental conditions and incident situation.
    - Utilize principles of good aeronautical decision making (ADM).
    - Utilize CRM techniques.
    - Maintain vigilance and situational awareness.
    - Take appropriate action to protect personnel and equipment.

*Follow UAS emergency procedures per agency policy and *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515.

When to start task: Upon arrival at and throughout the incident.

Resources to complete task: *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; 14 CFR Part 107 – Small Unmanned Aircraft Systems; local agency directives.

How to accomplish task:

- Maintain aircraft control.
    - Remember small emergencies can quickly escalate if the pilot is distracted by attempting to troubleshoot the problem.
    - Perform immediate action items.
    - Always maintain visual contact with the aircraft during an emergency, if possible, to reduce the likelihood of losing orientation.
- Analyze the situation.
    - Once the aircraft is stabilized, assess the cause of the emergency if practical.
- Take appropriate action.
    - Land the aircraft as soon as possible if appropriate.
- Consider the safety of yourself and others before attempting to save the aircraft in an emergency.
- In the event of a UAS flyaway, perform the following actions:
    - Notify aerial supervision, aircraft in the area, and ground personnel.
    - Clear the affected airspace and suspend air operations in the area.
    - Notify flight-following contact and/or dispatch as required.
    - Wait for the duration of the fuel/battery load to ensure the UAS is on the ground.
    - Resume air operations.
    - Search for the missing UAS.
    - Follow established mishap reporting procedures, including the following:
        - Agency guidance and notification process
        - 1-800-4MISHAP
- Adhere to the following plans and document events in SAFECOM:
    - Local mishap response plan
    - IWI Plan
    - FAA Part 107 and National Transportation Safety Board (NTSB) requirements for qualifying accidents or incidents
    - Aviation Safety Reporting System (ASRS)

Communicate and Coordinate

*Ensure a clear understanding of expectations and timely communication within and across Incident Command System (ICS) functional areas and chain of command.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; SOGs; NIFC FTP (IAP, maps, travel plan).

How to accomplish task:

- Clearly state expectations.
    - State your expectations clearly and often to eliminate misunderstandings or confusion about priorities and performance standards.
- Communicate standards of performance, behavior, and position responsibilities to the UAS module.
- Ensure module debriefings are conducted on a regular basis.
    - Debriefings, if done in an open, professional, and timely manner, can allow problems to surface and be addressed before conflicts occur.
- Provide timely updates on the progress of the UAS mission throughout the operational period, as applicable.

*Communicate effectively using multichannel radios, prepare and program radios for assignment, ensure effective radio communications when assigned resources are using multiple frequencies during incident operations, and use plain language and Incident Command System (ICS) terminology.

When to start task: Upon arrival at the assignment and throughout the incident.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; IAP; briefing form; air operations; radio program guides; ***National Incident Radio Support Cache (NIRSC) User's Guide.*

How to accomplish task:

- Obtain and verify VHF-FM and VHF-AM frequencies being utilized for the incident/project.
    - Receive in-briefing and IAP/in-briefing packet.
    - Review Communications Plan contained within packet and determine relevant frequencies.
        - Ask any needed questions to clarify which frequencies are pertinent to your assignment/location/work area.
    - Receive clone for radio and hand program frequencies into appropriate channels and ensure numbers/alphanumeric are correct.
    - Perform radio check among radios to ensure positive communication and identify any issues.
- Utilize radios to communicate with your own and adjoining/assigned resources.
    - Familiarize yourself with ICS terminology and clear text.

    - Contact other individuals/crews/engines using portable or handheld radios on appropriate frequencies, using proper radio etiquette (i.e., identify unit you are calling, followed by your own identifier).
    - Communicate with other resources using clear text; be brief.
- If applicable, configure communication and datalink equipment and confirm connectivity of the following:
    - Traffic monitoring system receiver/transponder (e.g., ADS-B)
    - Digital networks, including identifiers and security
    - Incident data sharing accounts and methods, online addresses, and access authorizations

*Utilize common terminology and brevity with dispatch, ground resources, and other aircraft.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Aerial Supervision*, PMS 505; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; *NWCG Standards for Airspace Coordination*, PMS 520; IAP; brevity and terminology job aids.

How to accomplish task:

- Recognize the incident situation, operational tempo, and appropriate priority of communication relative to what you need to coordinate.
- Utilize the appropriate radio channel for information exchange.
    - If a lengthy conversation needs to occur, consider finding a discrete frequency for communication.
    - Examples could be a dedicated "crew net" or a non-critical frequency (e.g., air-to-ground secondary when no aircraft are operating).
- Formulate the expected communications exchange before beginning the transmission. As the saying goes, "push to talk, not to think."
- Speak clearly and concisely.
- Avoid lengthy, unbroken transmissions.
- Utilize other communications methods if available, such as cell phones, text messages, instant messaging, or email.

*Establish communication and exchange necessary briefings/information with appropriate personnel based on incident complexity.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; flight organizer; NOTAMs.

How to accomplish task:

- Attend daily aviation, operations, and planning meetings/briefings.
- Coordinate with personnel and attend briefings prior to UAS operations, which may include the following:
    - Air Operations
        - AOBD
        - Air Support Group Supervisor (ASGS)
        - UASM/UASL

    - Operations
        - OSC
        - Division/Group Supervisor (DIVS)
    - Planning
        - PSC
        - SITL
        - Resources Unit Leader (RESL)
    - Helibase Manager
    - Aerial Supervisor
    - Local unit Aviation Manager
    - Local dispatch center
- Ensure IMT is aware of UAS personnel time frames for demobilization and replacement.

*Ensure remote pilot, visual observer (VO), and mission-pertinent personnel are briefed on the mission.

When to start task: Throughout the assignment.

Resources to complete task: *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; flight organizer; VO best practices job aid; ***DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; ***Forest Service Standards for UAS Operations*.

How to accomplish task:

- Establish and communicate UAS mission objectives, final product requirements, and go/no-go factors to the UAS module.
    - Explain final product relevance.
    - Determine and convey execution plan.
    - Address weather factors for the mission (e.g., wind, visibility concerns, any expected severe weather).
    - Identify position of hazards (e.g., guy wires, power lines, other obstructions that are difficult to see).
    - Convey communication requirements with other aircraft, ground personnel, or dispatch.
    - Be aware of crowds or vehicles that might interfere with the operation.
    - Identify potential signal interference sources.
    - Remain aware of local/incident air traffic patterns.
    - Note the position and distance of local airports and transition corridors relative to the AO.
    - Assess the amount of air traffic usually found in the area.
    - Determine and explain emergency procedures.

*Establish positive contact with on-scene aircraft and/or aerial supervision prior to takeoff, ensure operational and airspace clearance for the UAS mission, and comply with all instructions to safely operate UAS in an incident airspace (fire traffic area and temporary flight restriction, if applicable).

When to start task: Before any UAS mission and any time clearance or coordination is required.

Resources to complete task: *NWCG Standards for Aerial Supervision*, PMS 505; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; *NWCG Standards for Airspace Coordination*, PMS 520; 14 CFR Part 107 – Small Unmanned Aircraft Systems; IAP; flight organizer; ***DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; ***Forest Service Standards for UAS Operations*.

How to accomplish task:

- Ensure all assignment and mission notifications have been made with pertinent units and individuals.
- Ensure communications devices are configured appropriately, are operational, and connectivity is established.
- Ensure all pre-flight planning, coordination, and actions are complete prior to the aircraft launching.
    - Coordinate airspace deconfliction utilizing CRM principles utilizing the standards in *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515 as a baseline for communication.
- Utilize radio communication procedures to coordinate an airspace deconfliction plan in accordance with the IAP and *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515 in the following scenarios:
    - Coordinate flight when there are no aircraft on scene.
        - Communicate area of operations and mission plan to helibase/dispatch or intermediary unit.
        - Set altimeter as appropriate (local airport or default).
        - Calculate mission altitude.
        - Give blind radio call on assigned air-to-ground and air-to-air frequency; give your location, altitude, and intentions.
        - Call the IC/ground personnel on the assigned tactical frequency and verify no other aircraft are on scene.
        - Communicate completion of flight and/or mission to helibase/dispatch or intermediary unit.
    - Coordinate flight if aircraft arrives on scene during UAS operation.
        - Establish communication and give your location, altitude, altimeter setting, and intentions.
        - Coordinate vertical/horizontal separation.
        - Return to home location until communication and separation is established.
        - Communicate mission status to helibase/dispatch or intermediary unit.
    - Coordinate flight when aerial supervision is not on scene but other aircraft are.
        - Contact on-scene aircraft.
        - Obtain altimeter setting.
        - Calculate mission altitude.

        - Coordinate vertical/horizontal/temporal separation.
        - Communicate intentions and mission plan to helibase/dispatch or intermediary unit.
        - Communicate completion of flight and/or mission to on-scene aircraft and helibase/dispatch or intermediary unit.
    - Coordinate flight when aerial supervision is on scene.
        - Obtain altimeter setting.
        - Calculate mission altitude.
        - Identify potential options for vertical, horizontal, and/or temporal separation.
        - Communicate area of operations and mission plan.
        - Request clearance for mission.
        - Communicate completion of the flight and/or mission as directed by aerial supervision.

Conduct and/or participate in After Action Reviews (AARs).

When to start task: Upon completion of a significant event or at the end of the day.

Resources to complete task: *IRPG.*

How to accomplish task:

- Participate in AARs with the UAS module and applicable incident personnel.
- Debrief with IMT staff.
- Provide lessons learned to assist program and individual development.
- Document lessons learned within the team for future reference.
- Determine any needed corrective actions.

Manage Risk

*Apply the Risk Management Process as stated in the *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461: identify hazards, assess hazards, develop controls and make risk decisions, implement controls, and supervise and evaluate.

When to start task: At the beginning of and throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; flight organizer.

How to accomplish task:

- Refer to the Risk Management section of the *IRPG* to use as a checklist.
- Refer to the Aviation Watch Out Situations section of the *IRPG* for more information.
- Utilize learning opportunities and resources to build knowledge on risk mitigation through use cases and lessons learned.

*Ensure Lookouts, Communications, Escape Routes, and Safety Zones (LCES) are in place.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG.*

How to accomplish task:

- Post lookouts, maintain communications, and establish escape routes and safety zones.
- Ensure LCES are established and known to all firefighters before the operation begins.

*Use Look Up, Down, and Around in the *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461 to help maintain situational awareness and adjust actions accordingly.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*.

How to accomplish task:

- Refer to the following sections in the *IRPG*:
  - Look Up, Down, and Around
  - Human Factor Barriers to Situation Awareness
  - Fire Assessment Process

*Plan for medical emergencies, ensure assigned resources are prepared to execute the Medical Plan and Medical Incident Report (ICS 206 WF), and ensure familiarity with medical responders, communication procedures, and transportation plan.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; Medical Plan and Medical Incident Report (ICS 206 WF); IAP.

How to accomplish task:

- Remain prepared to respond to emergencies by reviewing the following:
  - Medical emergency procedures stated in the IAP
  - Medical Incident Report in the *IRPG*
  - Other relevant guidelines
- Manage medical emergencies.

*Account for the location, health, safety, and welfare of assigned personnel.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*.

How to accomplish task:

- Account for all your subordinates.
- Maintain LCES.
- Apply the Risk Management Process and maintain hazard identification.
- Provide for adequate rest periods, food, and water.
- Ensure all personnel have access to medical needs.
- Ensure personnel welfare, safety, and proper conduct.

*Identify hazardous situations and respond appropriately.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; IAP.

How to accomplish task:

- Recognize, acknowledge, and plan for known hazards during assignment, mission, and flight preparation.
- Utilize LCES principles in the *IRPG*.
- Maintain situational awareness using Look Up, Down, and Around principles.
- Utilize principles of CRM and ADM to recognize emerging danger or potentially hazardous situations.
- Mitigate hazards through decisive, immediate, and suitable action to protect life, limb, and property.

Document

Complete, authorize, ensure timeliness of flight use reporting, statistics, Incident Command System (ICS) messages, activity logs, and safety tracking systems as required by policy.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; General Message (ICS 213) forms; *PSM-001, How to Correctly Fill Out the Crew Time Report (CTR), SF 261*, J-001; ***DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; ***Forest Service Standards for UAS Operations*.

How to accomplish task:

- Follow form's completion steps as outlined by the agency, instructions provided with the form, and/or specific instructions as provided by the IMT for the assignment, including the following:
  - Flight Use Reporting as required by FAA and agency directives
  - Daily statistics for supervisor and/or agency
  - Crew Time Report (CTR), SF 261
  - Incident Personnel Performance Rating (ICS 225 or ICS 225 WF)
  - General Message (ICS 213)
  - Activity Log (ICS 214)
  - SAFECOM
  - SAFENET
  - Agency-specific forms

Provide UAS-specific information to appropriate Planning Section personnel.

When to start task: When directed to complete, as outlined by the agency, or when tasked by direct supervisor.

Resources to complete task: Assignment List (ICS 204); Air Operations Summary (ICS 220).

How to accomplish task:

- Check the IAP to ensure UAS module information is reflected correctly on Assignment List (ICS 204) and Air Operations Summary (ICS 220), as applicable.
- Make appropriate notifications to update errors, which may include contacting the following:
  - Incident supervisor
  - Planning Section Chief
  - AOBD
  - UASM/UASL

***Submit accident/incident reports through established chain of command.**

When to start task: Following a significant event.

Resources to complete task: *NWCG Aviation Mishap Response Guide and* Checklist, PMS 503; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; agency policy and SOPs; SAFECOM.

How to accomplish task:

- As directed, follow the *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503.
    - Protect people.
    - Protect property.
    - Preserve evidence.
    - Notify and investigate.
    - Recovery operations.
- If applicable, notify aerial supervision, aircraft in the area, and ground personnel.
- Notify flight-following contact, AOBD, IC, and/or dispatch as required.
- Follow additional local mishap reporting procedures.
- Follow additional agency-specific mishap reporting procedures.

Demobilize

Plan for demobilization, brief assigned resources on demobilization procedures and responsibilities, and ensure incident and agency demobilization procedures and work/rest driving standards are followed.

When to start task: At the end of the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; Demobilization Check-Out (ICS 221); Incident Personnel Performance Rating Form (ICS 225 WF); agency-specific SOPs; local SOPs; agency-specific policies; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book); ***National Interagency Standards for Resource Mobilization*.

How to accomplish task:

- Watch the bulletin board for demobilization information and list.
- Check with the Planning Section.
- Attend operational period briefings.
- Determine the demobilization process.
- Keep crew members informed (e.g., new assignment, travel plans).

Return equipment and supplies to the appropriate unit.

When to start task: Upon notification of demobilization from the incident.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; Demobilization Check-Out (ICS 221); Incident Personnel Performance Rating Form (ICS 225 WF); agency-specific SOPs; local SOPs; agency-specific policies; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book); ***National Interagency Standards for Resource Mobilization.*

How to accomplish task:

- Return equipment and supplies to the appropriate unit.
- Perform proper resupply actions and restock property and supplies lost, damaged, or consumed on incident.
    - Obtain supplies from the Supply Unit at the incident, local cache, or from other sources at the home unit.

Complete the demobilization check-out process before being released from the incident.

When to start task: Upon notification of demobilization from the incident.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; Demobilization Check-Out (ICS 221); Incident Personnel Performance Rating Form (ICS 225 WF); agency-specific SOPs; local SOPs; agency-specific policies; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book); ***National Interagency Standards for Resource Mobilization*.

How to accomplish task:

- Check out with the Planning Section.
- Submit Demobilization Check-Out (ICS 221) to the Demobilization Unit.

- Perform proper resupply actions and restock property and supplies lost, damaged, or consumed on incident.
    - Obtain supplies from the Supply Unit at the incident, local cache, or from other sources at the home unit.
- Ensure drivers are rested and vehicles are in proper working order.
- Provide/schedule rest stops.

Upon demobilization, report status to the home unit including reassignment or estimated time of arrival (ETA) at the home unit.

When to start task: At the end of the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; Demobilization Check-Out (ICS 221); Incident Personnel Performance Rating Form (ICS 225 WF); agency-specific SOPs; local SOPs; agency-specific policies; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book); ***National Interagency Standards for Resource Mobilization*.

How to accomplish task:

- Contact dispatch, duty officer, and/or appropriate supervisor to relay travel plans and estimated timing.
- When outside of the home Geographic Area Coordination Center (GACC), coordinate with the appropriate GACC.
- Upon returning to the home unit, check in with dispatch, duty officer, or appropriate supervisor.

Anticipate demobilization, identify excess resources, coordinate and prepare demobilization schedules, and communicate with the supervisor.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; Demobilization Check-Out (ICS 221); Incident Personnel Performance Rating Form (ICS 225 WF); agency-specific SOPs; local SOPs; agency-specific policies; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book); ***National Interagency Standards for Resource Mobilization*.

How to accomplish task:

- Determine if UAS is required beyond the scheduled demobilization date.
- Coordinate a replacement with local and national coordinators as required.
- If a replacement is inbound, coordinate a plan for seamless UAS coverage during the transition period, including the following considerations:
    - Timing of arrival and departures for overlapping shifts to facilitate handover
    - Coordination of any equipment requirements, including what is being taken by the departing remote pilots, what is arriving with the incoming remote pilots, and what might need to remain for continued operations
    - Order and coordinate any equipment or other logistical concerns with the IMT or local unit (e.g., generators, UTVs, fuel, hand tools, fusees)

***During transfer of command, ensure continuity of operations, exchange critical safety information, and communicate transfer of authority through established chain of command.**

When to start task: At the end of the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; Demobilization Check-Out (ICS 221); Incident Personnel Performance Rating Form (ICS 225 WF); agency-specific SOPs; local SOPs; agency-specific policies; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book); ***National Interagency Standards for Resource Mobilization*.

How to accomplish task:

- Perform transfer duties to incoming UASP personnel.
    - Explain mission objective, decision being informed, and final data product requirements.
    - Provide communication information, including radio frequencies, phone numbers, email addresses, and any established communications procedures.
    - Point out any hazards to UAS operations or the incoming crew, and relay expected weather, fire behavior, or aviation activity.
    - Relay any lessons learned or best practices for the assignment and mission.
    - Perform data handover and management to ensure continuity of the UAS mission.
- Complete end of operational period procedures.
    - Debrief with AOBD/helibase/dispatch.
    - Attend or provide input to incident planning meeting for next day's operation.
    - Participate in an AAR.
    - Complete required documentation (e.g., OAS-2U, SAFECOM).

The *NWCG Incident Position Standards for Unmanned Aircraft Systems Pilot* is developed and maintained by the Interagency Fire Unmanned Aircraft Systems Subcommittee (IFUASS), under the direction of the National Interagency Aviation Committee (NIAC), an entity of the National Wildfire Coordinating Group (NWCG).

Previous editions: first.

This publication is available electronically at https://www.nwcg.gov/publications/pms350-78.

Submit comments, questions, and recommendations to the appropriate agency program manager assigned to the IFUASS using the NWCG Publication Review Form, https://www.nwcg.gov/publications/publication-review-form. View the complete roster at https://www.nwcg.gov/committee/interagency-fire-unmanned-aircraft-systems-subcommittee/roster