NWCG Incident Position Standards for Unmanned Aircraft Systems, Manager

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The *NWCG Incident Position Standards for Unmanned Aircraft Systems, Manager* establishes national interagency standards for operating as an Unmanned Aircraft Systems, Manager (UASM) 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, Manager Position Page, https://www.nwcg.gov/positions/unmanned-aircraft-system-manager, 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 an Unmanned Aircraft Systems, Manager.

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)

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General References

- *10 Standard Firefighting Orders*, PMS 110, https://www.nwcg.gov/publications/pms110/10-standard-firefighting-orders-pms-110
- *18 Watch Out Situations*, PMS 118, https://www.nwcg.gov/publications/pms118/18-watch-out-situations-pms-118
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, https://www.nwcg.gov/publications/461
- *NWCG Standards for Aerial Ignition*, PMS 501, https://www.nwcg.gov/publications/501
- *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503, https://www.nwcg.gov/publications/503
- *NWCG Standards for Aerial Supervision*, PMS 505, https://www.nwcg.gov/publications/505
- *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515, https://www.nwcg.gov/publications/515
- *NWCG Standards for Airspace Coordination*, PMS 520, https://www.nwcg.gov/publications/520
- *NWCG Hazard Relief Participant Request Form*, PMS 520-1, https://www.nwcg.gov/publications/pms520-1
- *NWCG Standards for Aviation Risk Management*, PMS 530, https://www.nwcg.gov/publications/530
- *NWCG Aviation Risk Management Workbook*, PMS 530-1, https://www.nwcg.gov/publications/530-1
- *NWCG Standards for Wildland Fire First Aid*, PMS 560, https://www.nwcg.gov/publications/560
- *NWCG Standards for Interagency Incident Business Management*, PMS 902, https://www.nwcg.gov/publications/902
- 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
    - 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), https://www.daip.jcs.mil/pdf/ap1b.pdf
- *Area Planning, Special Use Airspace, North and South America* (AP/1A), https://www.daip.jcs.mil/pdf/ap1a.pdf

- *Federal Aviation Administration, Pilot Handbook of Aeronautical Knowledge*, https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak
- Flight Service, 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
- 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) Per Diem Rates, https://www.gsa.gov/travel/plan-book/per-diem-rates

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 Standards for Fire and Fire Aviation Operations* (Red Book), https://www.nifc.gov/standards/guides/red-book
- **Interagency Unmanned Aircraft System (UAS) Program, UAS Support, https://uas.nifc.gov/
  - UAS Manager Toolbox
- **National *Interagency Standards for Resource Mobilization*, https://www.nifc.gov/nicc/logistics/reference-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.
- Promote 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: *IRPG*; *NWCG Standards for Aerial Ignition*, PMS 501; *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; *NWCG Standards for Interagency Incident Business Management*, PMS 902; *Packing List for Wildland Fire Support Staff*, J-102; resource ordering applications (e.g., IROC); Notices to Airmen (NOTAMs); flight organizer; SGI waiver, Federal Aviation Administration (FAA)'s System Operations Support Center; flight service; UASFM; Low Altitude Authorization and Notification Capability (LAANC); ****DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; **Forest Service Standards for UAS Operations*; **Interagency UAS Program US Manager Toolbox; **Interagency Standards for Fire and Fire Aviation Operations* (Red Book).

How to accomplish task:

- Verify your status is current in resource ordering applications (e.g., IROC).
- Build a UASM kit, including the following:
  - Location or incident-specific information
  - Fire Traffic Area (FTA) Protocol Card
  - Flight Organizer
    - Flight log
    - Flight risk assessment tools (FRAT)
    - Certificates of Authorization (COAs)
    - Checklists (briefing and aircraft)
    - Scripts
    - Visual observer (VO) best practices
    - UAS mishap response checklist
  - FAA Pilot Card
  - Agency-specific Pilot Card
  - Incident Qualifications Card (Red Card)
  - Applicable manuals
    - Aircraft
    - Payload
    - Ground Control Station (GCS)
  - *NWCG Unmanned Aircraft System, Manager Position Task Book*, PMS 311-79
  - *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461
  - *NWCG Standards for Aerial Ignition*, PMS 501
  - *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
  - **Interagency Standards for Fire and Fire Aviation Operations* (Red Book)
  - Applicable agency-specific operations guide

- o Documentation
  - Crew Time Report (CTR), SF 261
  - Incident Time Report, OF 288
  - SGI waiver
  - NOTAM
  - LAANC
  - Travel log
  - General Message (ICS 213)
  - Agency-specific forms (e.g., Injury and Workers' Compensation, accident forms)
- o Required items
  - Fireline hand tool (if unavailable, obtain at incident)
  - Handheld FM and AM radios (if unavailable, obtain at incident)
  - Standard fireline personal protective equipment (PPE)
  - Directional tools (e.g., compass, signal mirror, strobe, panel)
  - Credit card with a sufficient credit limit
  - UAS and support equipment
    - ❖ Generator
    - ❖ Landing pad
    - ❖ Extension cord
    - ❖ Shade for aircraft
    - ❖ Spare parts
    - ❖ Toolkits
  - Cellular/satellite phones with chargers
  - Assorted chargers for all electronic equipment
  - Laptop or tablet
  - Phone list
- o Suggested items
  - Electronic flight bag
    - ❖ Airspace and weather information resources
  - Global positioning system (GPS) unit
  - Pocket calendar
  - Pocket notepad
  - Assorted pens, pencils, highlighters
  - Maps and/or atlas
  - Flagging
  - Electrical tape
  - Fiber tape
  - Calculator
  - Headlamp/flashlight with extra batteries
  - Watch

*Gather critical information pertinent to the assignment.

When to start task: Upon receipt of resource order.

Resources to complete task: *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; resource order; file transfer protocol (FTP) (Incident Action Plan [IAP], maps); applicable manuals (aircraft, payloads); Applicable Visual Flight Rules (VFR) Sectional (e.g., Sectional Aeronautical Chart); *******Interagency Standards for Fire and Fire Aviation Operations* (Red Book); **Interagency UAS Program US Manager Toolbox; ***National Interagency Standards for Resource Mobilization.*

How to accomplish task:

- Access and review the resource order.
    - 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)
- Participate in an initial briefing call to clarify mission objectives with incident supervision.
    - Clarify mission objectives of the UAS operation and address the following:
        - Surveillance
        - Mapping
        - Search and rescue
        - Fire progression
        - Payload, sensors, and data (PSD)
        - Other
    - Gather situational awareness.
        - Obtain the IAP, if available.
        - Collect maps, frequencies, and assigned aerial resources if available.
        - Determine airspace designation (e.g., class, Temporary Flight Restrictions [TFR], special use).
        - Verify directions to the incident reporting location.
        - Verify planned operational timeframes.
        - Gather weather information.
    - Review the incoming briefing packet, base operations plan, or IAP for the following information:
        - Organizational chart and contact information/numbers
        - Local resources and hazards
        - Maps and coordinates
        - Frequencies
    - Ensure understanding of leader's intent and boundaries.
        - Obtain incident objectives.
        - Identify roles and responsibilities.
        - Confirm specific assignments.
- Coordinate mobilization of personnel and schedule planning calls as needed.
- Coordinate with dispatch to verify the following travel details:

- 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.

*Travel to and check in at the assignment.

When to start task: Upon receipt of resource order.

Resources to complete task: *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:

- 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.
- Ensure check-in procedures are complete.
  - 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.
  - Clone your radio.

*Check in with the incident supervisor and/or dispatch when arriving at the incident.

When to start task: Upon arrival at 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; FTP (IAP, maps); SGI waiver; FAA's System Operations Support Center; SAFECOM; ***DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; **Interagency Unmanned Aircraft System (UAS) Program website.

How to accomplish task:

- Contact the incident supervisor.
    - Unmanned Aircraft Systems, Module Leader (UASL)
    - Air Operations Branch Director (AOBD)
    - Operations Section Chief (OSC)
    - Division/Group Supervisor (DIVS)
    - Incident Commander (IC)
    - Fire Burn Boss (RXB)
    - Firing Boss (FIRB)
- Call the national coordinator.
    - Confirm status of the SGI waiver.
    - Confirm status of outstanding support equipment.
- Call the geographic UAS coordinator/UAS aviation point of contact.
    - Review regional and national aviation mishap response plan.
    - Identify SAFECOM process with the geographic UAS coordinator.
    - Obtain status update/future of UAS on assignment.
- Call local dispatch.
    - Discuss operational considerations.

Build the Team

*Assemble and validate readiness of the crew, equipment, vehicles, and aircraft.

When to start task: Upon receipt of resource order, upon arrival of assigned resources, and throughout the incident.

Resources to complete task: *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; applicable manuals (aircraft, payload); agency-specific airworthiness and pilot standard resources; **Interagency Standards for Fire and Fire Aviation Operations* (Red Book); **Interagency Unmanned Aircraft System (UAS) Program website.

How to accomplish task:

- 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.

*Establish a common operating picture.

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 relevant briefings in coordination with UASL and the following personnel:
  - OSC, AOBD, ASGS, RXB, and FIRB
    - 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.
  - Aerial supervision (Air Tactical Group Supervisor [ATGS], Helicopter Coordinator [HLCO], Aerial Supervision Module [ASM])
    - Confirm communication protocols/procedures.
  - Helibase Manager (HEBM)
    - Confirm communication protocols/procedures.
  - Dispatch
    - Confirm communication protocols/procedures.
  - Situation Unit Leader (SITL).
    - Determine data objectives (e.g., deliverables, timeline).

*Brief assigned personnel.

When to start task: After initial briefing, arrival of resources, and throughout the incident.

Resources to complete task: *IRPG*; *NWCG Standards for Aerial Ignition*, PMS 501; *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; Enterprise Geospatial Portal (EGP); incident-specific intelligence; incident awareness and assessment (IAA) products; FTP (IAP, maps); resource order; agency-specific pilot standards (e.g., FS/DOI pilot standards); agency-specific Pilot Cards (e.g., FS/DOI Remote Pilot Cards); **Interagency Standards for Fire and Fire Aviation Operations* (Red Book).

How to accomplish task:

- Utilize Crew Resource Management (CRM) principles to maximize the collective skill set of the module.
- Contact and brief the module.
  - Conduct introductions.
  - Ensure pilots understand incident logistics.
  - Ensure module has appropriate aircraft and payloads for the expected mission.
  - Conduct initial incident briefing for the UAS module, addressing the following:
    - General scope of the mission (e.g., data requirements)
    - Incident descriptive location
    - Aerial resources assigned
    - Radio frequencies
    - Airspace considerations
      - ❖ Controlled
      - ❖ Uncontrolled
      - ❖ Special use
      - ❖ Other
    - Airspace authorizations
    - Communication protocols/procedures
    - Emergency procedures

Supervise and Direct Work Assignments

*Supervise and manage the UAS resources.

When to start task: Throughout the assignment.

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

How to accomplish task:

- Adjust actions based on changing information and evolving situational awareness.
- Develop and implement contingency plans.
- Communicate changing conditions to module crew members.
- Establish and maintain relationships.
- Establish module schedule, including the following:
  - Pilot duty day
  - Work to rest ratio
  - Hours of operation

*Model leadership values and principles.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; FTP (IAP, maps); *******Interagency Standards for Fire and Fire Aviation Operations* (Red Book).

How to accomplish task:

- Assume responsibility of assigned resources.
  - Provide leader's intent.
  - Establish a chain of command.
- Assess the situation by gaining incident intelligence.
  - Conduct a thorough sizeup of the situation before engaging in operations.
- Motivate crew members with a "can do safely" attitude.
  - Follow and enforce safety guidelines.
  - Share information.
  - Make it clear to your crew, "If you see something, say something!"
- Demonstrate initiative by taking action in the absence of orders.
  - Build a plan with contingency actions and trigger points to mitigate safety concerns.
- Manage personnel issues as they occur.
  - Ensure issues requiring corrective action are reported via the chain of command.
    - Ensure adequate documentation is completed.
  - Provide support to all module crew members.
  - Provide leadership and guidance for a professional workplace.
  - Answer questions.
  - Assist with problem solving.
  - Provide team-building opportunities.
- Provide developmental opportunities for trainees and record them in the PTB.

- Monitor well-being.
  - o Monitor for signs and symptoms of stress, fatigue, illness, or injury. Mitigate appropriately.

Perform Unmanned Aircraft Systems, Manager-Specific Duties

*Develop and implement the mission based on operational and data objectives.

When to start task: Upon receipt of a new flight request and throughout the assignment.

Resources to complete task: *NWCG Standards for Aerial Ignition*, PMS 501; *NWCG Standards for Aerial Supervision*, PMS 505; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; applicable manuals (aircraft, payload); applicable VFR sectional (e.g., Sectional Aeronautical Chart); FTP (IAP, maps); agency-specific fleet tracking software; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book).

How to accomplish task:

- Obtain a briefing by the supervisor on the UAS mission.
- Brief the UAS module on the UAS mission.
- Establish the travel plan to the area of operation.
- Assess potential LRZs.
- Validate the flight plan.
- Determine accurate logistical needs for the UAS module and use established ordering procedures.
    - Ensure proper support equipment.
    - Ensure proper vehicles.
- Check equipment to ensure module readiness.
    - Aircraft and Ground Control Station (GCS)
        - Software updates
        - Downloaded maps
        - Batteries charged
    - Payloads
        - Batteries charged
        - SD card formatted
    - Support equipment
- Consult airworthiness directives and processes, preventative maintenance schedules, and Bureau/Agency-specific policies.
- Adapt flight operations to include extended operations, swing shifts, and early shifts as needed.
    - Discuss future operations (e.g., 24 hours out, 48 hours out, 72 hours out, glide path).

*Ensure the appropriate airspace authorizations are in place.

When to start task: Upon receipt of a new flight request and throughout the assignment.

Resources to complete task: 14 CFR Part 89 — Remote Identification of Unmanned Aircraft; 14 CFR Part 91 — General Operating and Flight Rules; 14 CFR Part 107 — Small Unmanned Aircraft Systems; agency-specific COA; applicable VFR sectional (e.g., Sectional Aeronautical Chart); LAANC; MASP; PASP; SGI waiver.

How to accomplish task:

- Ensure adherence to all policy and regulations applicable to UAS usage.
    - FAA
    - DOI
        - PASP
    - United States Forest Service (USFS)
        - MASP
    - State and local
- Verify airspace authorizations and provisions.
    - 14 CFR Part 107
    - 14 CFR Part 107 with waiver
    - Agency-specific COA
    - SGI waiver
        - Validate SGIs and COAs.
            - ❖ Aircraft
            - ❖ Pilot
            - ❖ Timeframe and duration
    - TFR as required
        - Validate timeframe and dimensions.
        - Request adjustment, as required, via Incident Management Team (IMT), AOBD, or designee.
    - Other participating unassigned UAS resources, if applicable
- Coordinate with Air Operations/aerial supervision.

*Coordinate safe travel to and from the area of operations.

When to start task: Upon receipt of a new flight assignment and throughout the incident.

Resources to complete task: *IRPG*; FTP (IAP, maps); travel directions to fireline from supervisors or other resources on the incident.

How to accomplish task:

- Consider travel times and routes, including the following:
    - Identification of ingress and egress routes
    - Bridge and road limits
    - Equipment weight and length
    - Weather effects
    - Turnouts/turnarounds
    - Parking areas
    - Safety zones
- Consider communication and accountability procedures, including the following:
    - Check-in and check-out
    - Line overhead notifications

*Perform a site survey and determine an appropriate Launch and Recovery Zone (LRZ).

When to start task: When preparing for and during a flight.

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

How to accomplish task:

- Establish LRZ based on the following:
    - Topography/terrain conditions
    - Ingress and egress routes
    - Mission profile
    - Aircraft capability
    - Weather
    - Fire behavior
- Ensure LRZ location is depicted on incident aviation maps, if applicable.
- Complete necessary improvements to LRZ.

*Organize the UAS resources for operational missions.

When to start task: Upon receipt of a new request and when preparing for a flight.

Resources to complete task: *IRPG*; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; applicable manuals (aircraft, payload); FTA protocol; FTP (IAP, maps).

How to accomplish task:

- Ensure mission objectives, expectations, and intent are clear and understood.
- Assign roles and responsibilities.

*Provide module oversight.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Aerial Ignition*, PMS 501-1; *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; applicable manuals (aircraft, payload); FTA protocol; flight service; flight organizer; FTP (IAP, maps); LAANC; NOTAMs; SGI waiver, FAA's System Operations Support Center; UASFM; agency-specific standards for UAS operations (e.g., *DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; *Forest Service Standards for UAS Operations*).

How to accomplish task:

- Ensure safety of flight.
    - Verify mission profile aligns with mission objectives and airspace authorizations.
    - Adhere to FTA protocol.
        - Coordinate with dispatch, helibase, aircraft, and ground personnel in the area.
        - Ensure separation and deconfliction with crewed aircraft on scene.
    - Monitor UAS work area, including the following:
        - Proximity to virtual fences
        - Appropriate altitude
        - Proximity to other participating aircraft
    - Monitor flight profile, including the following:
        - Flight maneuvers

- - - Efficiency of flight
    - Aircraft telemetry
    - Weather considerations
    - Aircraft capabilities
- Ensure appropriate communication, coordination, and deconfliction has been established with the following:
  - Aerial supervision
  - On-scene aircraft
  - Helibase
  - Dispatch
  - Operations personnel
- Ensure quality and delivery of collected data.
- Ensure product deliverables meet IMT intent.
- Transfer data package to Planning Section Chief (PSC) or designee.
- Monitor performance and provide immediate and regular feedback to assigned UAS personnel.

Communicate and Coordinate

*Establish communications and exchange necessary briefings/information.

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; applicable manuals (aircraft, payload); FTA protocol; FTP (IAP, maps); **Interagency Unmanned Aircraft System (UAS) Program website.

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)
    - UASL
    - Helibase Manager
  - Operations
    - OSC
    - DIVS
  - Planning
    - PSC
    - SITL
    - Resources Unit Leader (RESL)
  - Aerial supervisor
  - Local unit aviation manager
  - Local dispatch center
- Ensure IMT is aware of module glide path.

*Communicate using plain language and Incident Command System (ICS) terminology.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; FTP (IAP, maps); radio programming guides; ***Interagency Standards for Fire and Fire Aviation Operations* (Red Book).

How to accomplish task:

- Obtain and verify frequencies being utilized for incident/project.
  - Review the Communications Plan.
  - Receive clone for radio and program frequencies into appropriate channels, ensuring numbers/alphanumeric are correct.

- Utilize radios to communicate with your own and adjoining resources.
  - Communicate with other resources using clear text. Be brief.
  - In the event of an emergency, always clear the appropriate channel for emergency traffic to report an Incident Within an Incident (IWI).

*Ensure clear understanding of expectations and timely communication within the chain of command.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; FTP (IAP, maps).

How to accomplish task:

- Communicate standards of performance, behavior, and position responsibilities to your subordinates clearly.
- Ensure module debriefings are conducted on a regular basis.
- Provide timely updates on the UAS module's progress throughout the operational period.

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

When to start task: Upon the completion of an assignment, shift, or special circumstances.

Resources to complete task: *IRPG*; Activity Log (ICS 214); Incident Personnel Performance Rating Form (ICS 225 or ICS 225 WF).

How to accomplish task:

- Conduct AARs with the UAS module and applicable incident personnel.
- Participate in the IMT debrief.
- Conduct personnel performance evaluations.
- Provide lessons learned to assist program and individual development.

Manage Risk

*Apply the Risk Management Process and Safety Management System (SMS).

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *NWCG Standards for Aviation Risk Management*, PMS 530; *NWCG Aviation Risk Management Workbook*, PMS 530-1; Medical Plan and Medical Incident Report (ICS 206 WF); SAFENET; agency-specific risk management tools; ********Interagency Standards for Fire and Fire Aviation Operations* (Red Book).

How to accomplish task:

- Implement the Risk Management Process in the *IRPG*.
- Implement the *NWCG Standards for Aviation Risk Management*, PMS 530 and *NWCG Aviation Risk Management Workbook*, PMS 530-1.
- Use the Aviation User Checklist in the *IRPG*.
- Account for location, health, safety, and welfare of assigned personnel.
- Monitor personnel for signs and symptoms of fatigue, illness, or injury. Mitigate appropriately.
    - Know yourself.
- Provide adequate breaks, shade, etc.

*Ensure Lookouts, Communications, Escape Routes, and Safety Zones (LCES) are established and known to all personnel before they are needed.

When to start task: Throughout the assignment.

Resources to complete task: *IRPG*; *10 Standard Firefighting Orders*, PMS 110; *18 Watch Out Situations*, PMS 118; FTP (IAP, maps).

How to accomplish task:

- Implement the guidelines in the *IRPG*.
    - Refer to the *10 Standard Firefighting Orders*, PMS 110.
    - Refer to the *18 Watch Out Situations*, PMS 118.
    - Use the Look Up, Down, and Around section of the *IRPG* to help maintain situational awareness.
    - Adjust actions accordingly.
- Communicate a predetermined emergency plan.

*Plan for and respond to medical emergencies.

When to start task: Prior to a medical incident or when a medical incident occurs.

Resources to complete task: *IRPG*; *NWCG Standards for Wildland Fire First Aid*, PMS 560; FTP (IAP, maps).

How to accomplish task:

- Ensure assigned resources are prepared to execute and complete the appropriate Medical Plan and Medical Incident Report (ICS 206 WF).
    - If the project or incident does not have a formal plan, ensure awareness of communication frequencies, contacts, and protocols in case of a medical emergency.
- Manage medical emergencies based on procedures stated in the IAP, the Medical Plan and Medical Incident Report (ICS 206 WF), the Emergency Medical Care section of the *IRPG*, and other relevant guidelines.

*Plan for and respond to aviation mishaps.

When to start task: When preparing for and during the flight.

Resources to complete task: *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503; *NWCG Standards for Fire Unmanned Aircraft Systems Operations*, PMS 515; FTP (IAP, maps); MASP; PASP; SAFECOM; agency-specific standards for UAS operations (e.g., *DOI Use of Unmanned Aircraft Systems (UAS)*, OPM 11; *Forest Service Standards for UAS Operations*).

How to accomplish task:

- Ensure proper notification procedures are followed, as identified in the *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503.
    - UAS fly-away
        - Pilot-in-Command (PIC) or designee will clear the affected airspace and suspend air operations in the area.
        - UASM or Unmanned Aircraft Systems Pilot (UASP) will notify and relay pertinent information (i.e., location, altitude, direction, battery life) to aerial supervision, aircraft in the area, and ground personnel, if applicable.
        - If UAS will enter controlled airspace, the PIC or designee will notify the controlling agency.
        - The PIC or designee will notify flight following contact, AOBD, IC, and/or dispatch as required.
    - UAS mishap/accident
        - PIC or designee will follow *NWCG Aviation Mishap Response Guide and Checklist*, PMS 503.
            - ❖ Protect people.
            - ❖ Protect property.
            - ❖ Preserve evidence.
            - ❖ Notify and investigate.
            - ❖ Recovery operations.
        - If applicable, the PIC or designee will notify aerial supervision, aircraft in the area, and ground personnel.
        - The PIC or designee will notify flight following contact, AOBD, IC, and/or dispatch as required.
- Follow additional local mishap reporting procedures.
- Follow additional agency-specific mishap reporting procedures.

Document

Complete, authorize, ensure timeliness of, and route required forms and documents.

When to start task: Throughout the assignment.

Resources to complete task: *NWCG Standards for Interagency Incident Business Management*, PMS 902; General Message (ICS 213); Activity Log (ICS 214); Incident Personnel Performance Rating (ICS 225 or ICS 225 WF); Crew Time Report (CTR), SF 261; Incident Time Report, OF 288; resource order; SAFECOM; SAFENET; other documents as assigned; agency/mission-specific forms.

How to accomplish task:

- Ensure proper documentation is completed, including the following, as applicable:
    - Flight use reporting
    - Incident replacement
    - General Message (ICS 213)
    - Crew Time Report (CTR), SF-261
    - Activity Log (ICS 214)
    - SAFECOM
    - SAFENET

Demobilize

*Prepare for and implement demobilization.

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

Resources to complete task: *IRPG*; *NWCG Standards for Interagency Incident Business Management*, PMS 902; Demobilization Check-Out (ICS 221); Incident Personnel Performance Rating Form (ICS 225 or ICS 225 WF); agency-specific standard operating procedures (SOPs); FTP (IAP, maps); resource ordering applications (e.g., IROC); local SOPs; agency-specific policies; ******National Interagency Standards for Resource Mobilization*.

How to accomplish task:

- Communicate with national and geographic UAS coordinators on future needs.
- Brief module crewmembers on demobilization procedures and responsibilities.
- Complete Incident Personnel Performance Rating (ICS 225 or ICS 225 WF) for crewmembers.
- Obtain Incident Personnel Performance Rating (ICS 225 or ICS 225 WF) from the incident supervisor.
- Debrief with applicable air and ground resources.
- Return equipment and supplies to appropriate unit/region.
  - o Ensure aircraft and support equipment are rehabbed and inspected to agency standards.
  - o Assist in resupply/replacement requests.
  - o Check status of incident replacement requests.
  - o Document inventory and aircraft discrepancies per agency guidelines.
- Ensure completion of demobilization check-out process before being released from the incident.
  - o Ensure module's post assignment tasks are completed.
  - o Ensure incident and agency demobilization procedures and work/rest driving standards are followed.
- Communicate and coordinate with home unit on travel times and rest and recuperation (R&R).
- Ensure you are released or reassigned from the incident in resource ordering applications (e.g., IROC).

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

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