UNION DRONES LLC

Safety Program (APP)

Accident Prevention Plan

UNION DRONES LLC

SAFETY PROGRAM (APP)

(Accident Prevention Program)

Company: Union Drones LLC
Phone: 360-233-7213
Email: contact@uniondrones.net
Website: www.uniondrones.net

Prepared by: James C. **Approved by: James C.**
Version: 1.0 **Effective Date: 11/25/2025**

Commitment Statement:

Union Drones LLC is committed to maintaining a safe, responsible, and compliant work environment through continuous improvement, worker engagement, and strict adherence to OSHA, WISHA, and FAA regulations.

Authorized Signature: James Casanova

SECTION A – EXECUTIVE SUMMARY & COMPANY COMMITMENT

A.1 Company Safety Policy Statement

Union Drones LLC is committed to providing a safe and healthful working environment for all employees, subcontractors, clients, and members of the public who may be affected by our operations. Safety is an integral component of our mission and a core element of our professional identity.

Our goal is to:

- Prevent injuries, illnesses, and incidents.
- Comply with all applicable federal (OSHA, FAA), state (WISHA/DOSH), and local regulations.
- Maintain continuous communication with General Contractors (GCs) and site safety personnel.
- Integrate safety planning into every project from pre-planning through closeout.
- Maintain all Union Drones personnel understand and follow safety requirements, procedures, and responsibilities.

All employees share responsibility for maintaining a safe work environment and reporting unsafe conditions or practices.

A.2 Management Commitment & Leadership Roles

Leadership at Union Drones LLC is responsible for ensuring that safety is an essential component of all company operations. This includes:

- Establishing safety expectations and communicating them clearly.
- Providing resources to meet safety obligations.
- Ensuring employees are trained, competent, and properly supervised.
- Holding all personnel accountable for following safe work practices.
- Supporting a Stop Work Authority culture where safety takes precedence over production.

A.2.a Executive/Owner Responsibilities

- Establish and maintain the Union Drones LLC Safety Program.
- Maintain adequate resources available for implementation.
- Maintain required certifications and insurance documentation.
- Lead incident investigations and Maintain corrective actions are completed.

- Coordinate safety communication with General Contractors and clients.

A.2.b UAS Pilot in Command (PIC) Responsibilities

- Comply with all FAA Part 107 requirements and site-specific rules.
- Conduct pre-flight planning, risk assessments, and equipment inspections.
- Maintain Visual Line of Sight (VLOS) unless otherwise authorized.
- Support safe operation around personnel, equipment, and structures.
- Immediately report hazards, incidents, or near-misses.

A.2.c Visual Observer (VO) Responsibilities

- Maintain continuous observation of the UAS, airspace, and ground hazards.
- Communicate clearly and promptly with the PIC.
- Scan the airspace using systematic scanning techniques.
- Identify obstacles, aircraft, workers, and equipment.
- Call for an immediate abort if unsafe conditions arise.

A.2.d Field Staff Responsibilities

- Follow all GC site safety rules, orientation procedures, and PPE requirements.
- Maintain awareness of UAS operations and stay outside exclusion zones.
- Report hazards, incidents, or unsafe behaviors immediately.
- Participate in pre-task briefings and toolbox talks.

A.3 Authorization & Policy Effective Date

This Safety Program is authorized by the Owner/Principal Operator of Union Drones LLC.
It becomes effective on the date listed on the cover page and remains in effect until superseded by a later revision.
All employees are required to read, understand, and comply with the policies established in this Safety Program.

A.4 Stop Work Authority (SWA)

Any employee, subcontractor, GC representative, or visitor has the authority and obligation to stop work if:

- An imminent danger or unsafe condition is observed.
- Site conditions change and no longer match the approved plan.

- Weather conditions create unsafe drone operations.
- Aerial hazards (cranes, aircraft, power lines) introduce unacceptable risk.
- Equipment malfunctions or becomes unsafe to operate.

Work may only resume when the hazard has been assessed, corrected, or controlled, and the responsible safety authority approves continuation.
SWA is a cornerstone of Union Drones LLC's safety culture. No retaliation or negative consequence will occur for exercising Stop Work Authority in good faith.

SECTION B – ORGANIZATIONAL SAFETY STRUCTURE

B.1 Roles and Responsibilities

Union Drones LLC clearly defines safety responsibilities for all personnel involved in UAS operations. Assigning and understanding these responsibilities supports accountability, efficient communication, and safe work execution. All personnel are expected to perform their duties in accordance with applicable regulations, GC site rules, and Union Drones LLC procedures.

B.1.a Executive/Owner Responsibilities

- Establish and maintain the company-wide Safety Program.
- Maintain compliance with OSHA, FAA Part 107, and Washington State L&I regulations.
- Maintain insurance, certifications, and required documentation for GC prequalification.
- Maintain all field staff and subcontractors receive adequate training.
- Allocate resources for hazard controls, PPE, equipment maintenance, and emergency response.
- Support and enforce Stop Work Authority.
- Lead or delegate incident investigations and corrective actions.

B.1.b Operations Manager Responsibilities

- Schedule and coordinate UAS missions with clients and GCs.
- Maintain personnel assigned to projects are appropriately trained and qualified for their assigned tasks.
- Verify that pre-task planning, risk assessments, and checklists are completed.
- Communicate with GC site supervisors regarding daily operations and site conditions.
- Maintain job documentation, safety meeting logs, and training records.
- Oversee equipment maintenance and Maintain deficiencies are corrected.
- Review incidents, near misses, and corrective actions.

B.1.c UAS Pilot in Command (PIC) Responsibilities

- Maintain compliance with FAA Part 107 at all times.
- Conduct flight planning, airspace checks, and hazard assessments before each mission.
- Perform pre-flight inspections and confirm aircraft readiness.
- Maintain VLOS unless specifically authorized under waiver.
- Establish and monitor flight exclusion zones and safe standoff distances.
- Manage communication with the VO and GC site teams.
- Terminate flight if unsafe conditions arise or SWA is triggered.
- Complete post-flight inspections, log entries, and data management.

B.1.d Visual Observer (VO) Responsibilities

- Maintain uninterrupted observation of the UAS and surrounding airspace.
- Scan for aircraft, cranes, personnel, vehicles, and obstacles.
- Communicate hazards promptly using clear and standard communication procedures.
- Call for immediate abort or landing if unsafe conditions are observed.
- Support PIC in establishing and maintaining safe flight zones.
- Participate in pre-flight briefings, safety meetings, and hazard identification.

B.1.e Field Staff Responsibilities

- Follow all GC safety rules, PPE requirements, and site orientations.
- Stay outside UAS exclusion zones unless authorized.
- Maintain situational awareness around active equipment and operations.
- Identify hazards and report them to the PIC or Operations Manager immediately.
- Participate in daily briefings, JHAs, and toolbox talks.
- Assist with establishing safe work areas and barricades.

B.2 Compliance with Federal, State, and Site Requirements

Union Drones LLC complies with all applicable safety regulations governing UAS operations and construction work environments. These include:

- OSHA 29 CFR 1910 and 1926
- Washington State WISHA/DOSH (WAC 296)
- FAA Part 107 (14 CFR Part 107)

- Local jurisdictional airspace or site-specific requirements
- GC-specific safety plans, orientations, and communication protocols

B.2.a Federal Requirements

- FAA Part 107 certification for Remote Pilot in Command
- Remote ID compliance where applicable
- Applicable OSHA workplace safety regulations

B.2.b Washington State Requirements (DOSH/WISHA)

- Maintain a written Accident Prevention Program (APP)
- Maintain employees receive required safety training
- Follow state requirements for ladder safety, fall protection, and roof access when applicable
- Comply with RCW 49.17 and WAC 296 standards

B.2.c Site-Specific Requirements (GC/Client)

- Attend GC-led site orientation and follow all posted site rules
- Follow PPE requirements set by the GC
- Submit daily access requests and coordination plans when required
- Maintain real-time communication with GC safety personnel
- Adjust operations based on GC equipment movement, crane coordination, or changing site conditions

---

B.3 Multi-Employer Worksite Responsibilities

Union Drones LLC operates as a subcontractor on multi-employer jobsites and recognizes the responsibilities established by OSHA and Washington State for each employer type. These may include:

B.3.a Controlling Employer (GC)

The controlling employer (usually the General Contractor) is responsible for overall site safety coordination, establishing safety practices, communicating hazards, and verifying subcontractor compliance.

B.3.b Creating Employer

Union Drones LLC is a “creating employer” when its personnel introduce hazards (e.g., setting up exclusion zones or flight areas). The company is responsible for ensuring these areas are safely established and communicated to affected parties.

B.3.c Exposing Employer

Union Drones LLC may be an “exposing employer” if its employees are at risk from hazards created by others. The company must identify and report unsafe conditions and take action to protect workers from exposure.

B.3.d Correcting Employer

While Union Drones generally does not act as a correcting employer, it may be responsible for addressing hazards related to its own equipment, barricades, or exclusion zones.

SECTION C – HAZARD IDENTIFICATION, ASSESSMENT & CONTROL

C.1 Hazard Identification Process

Union Drones LLC identifies hazards before beginning work through formal assessments, site observations, and ongoing communication with General Contractor (GC) personnel. Hazard identification occurs during:

- Pre-flight planning
- Site-specific safety planning
- Daily briefings and pre-task meetings
- Walkthroughs with GC safety representatives
- Weather and environmental condition assessments
- Equipment inspections

The goal is to identify, assess, and control hazards before they pose risks to personnel, equipment, or the public.

C.1.a Pre-Task Hazard Assessments (JHAs)

Before each flight operation, the PIC conducts a Job Hazard Analysis (JHA) that includes:

- Task steps
- Associated hazards
- Required controls
- Personnel assignments
- Communication plan

- Emergency procedures

All workers involved in the task review the JHA and confirm understanding before beginning work.

C.1.b Site Walks and Coordination

Prior to flight operations, the PIC or Operations Manager will:

- Walk the site to identify active equipment (e.g., cranes, lifts, trucks)
- Identify overhead hazards (power lines, cables, cranes, tree canopies)
- Check for changing terrain or ground conditions
- Verify access and staging areas
- Communicate findings to GC site personnel

C.2 Hazard Assessment Methods

Union Drones LLC uses several hazard assessment methods to evaluate risk severity and determine appropriate controls.

C.2.a Risk Matrix Evaluation

Hazards are evaluated based on:

- **Likelihood** of occurrence
- **Severity** of potential injury, equipment loss, or property damage
- **Exposure** of workers or the public

Risk levels are categorized (Low/Moderate/High/Critical), guiding selection of control measures.

C.2.b Dynamic (Real-Time) Hazard Assessments

During flight operations, the PIC and VO continuously scan:

- Airspace
- Ground activity
- Weather conditions
- Movement of personnel and equipment
- Unexpected obstructions

If conditions become unsafe, flight operations are paused or terminated under Stop Work Authority.

C.2.c Environmental and Weather Assessments

UAS operations are highly sensitive to environmental conditions. The PIC evaluates:

- Wind speed and gusts
- Precipitation
- Visibility
- Temperature (battery and sensor limits)
- Solar glare
- Microclimates around structures

Operations must not begin or must be halted if weather exceeds aircraft or FAA limitations.

C.3 Hazard Control Measures

Union Drones LLC follows the **Hierarchy of Controls** to eliminate or reduce hazards:

1. **Elimination** – Remove the hazard entirely whenever possible.
2. **Substitution** – Replace hazardous processes or equipment with safer alternatives.
3. **Engineering Controls** – Physical barriers, safe standoff distances, exclusion zones.
4. **Administrative Controls** – SOPs, training, pre-flight briefings, flight logs.
5. **Personal Protective Equipment (PPE)** – Last line of defense.

C.3.a Engineering Controls

Examples include:

- Ground-based exclusion zones marked with cones, tape, or barricades
- Vertical separation buffers from cranes, power lines, or structures
- Maintaining FAA-required altitude limits and VLOS
- Stable launch/landing areas free from trip hazards

C.3.b Administrative Controls

These include:

- UAS Standard Operating Procedures (SOPs)
- Site-Specific Safety Plans (SSSPs)
- Communication plans with GC personnel
- Task-based training and competency verification

- Daily hazard briefings and toolbox talks
- Adjusting flight paths to avoid active work areas

C.3.c Personal Protective Equipment (PPE)

Minimum PPE for Union Drones LLC personnel on construction sites:

- Hard hat
- High-visibility vest (ANSI Class II or III)
- Safety glasses
- Work boots
- Hearing protection when required

Additional PPE may be required by GC rules or site conditions.

C.4 Drone-Specific Hazard Controls

UAS operations introduce unique risks that require specialized controls.

C.4.a Airspace Hazards

Controls include:

- Airspace checks (LAANC, NOTAMs, TFRs)
- Maintaining VLOS at all times
- VO scanning for crewed aircraft
- Immediate descent if aircraft enter operating area
- Avoidance of crane swing radii or raised booms

C.4.b Ground Hazards

Controls include:

- Establishing clearly marked take-off/landing zones
- Maintaining horizontal separation from workers and equipment
- Avoiding congested or high-traffic areas
- Ensuring field staff maintain awareness of drone operations

---

C.4.c Electrical and Power Line Hazards

Controls include:

- Maintaining safe standoff distances
- Confirming voltage and clearance requirements with GC or utility
- Avoiding flight in windy/gusty conditions near power lines
- Maintaining lateral separation buffers

C.4.d Communication Hazards & Signal Interference

Controls include:

- Monitoring for GPS interference
- Avoiding flights near large metal structures when possible
- Using proper antenna orientation
- Pre-flight check for firmware and compass calibration

C.5 Documentation of Hazards and Controls

All identified hazards and selected control measures must be documented in:

- Pre-flight checklists
- Job Hazard Analyses (JHAs)
- Site-Specific Safety Plans (SSSPs)
- Flight logs
- Daily reports submitted to GC safety personnel (when required)

Documentation supports accountability, regulatory compliance, and incident prevention.

SECTION D – TRAINING, COMPETENCY & CERTIFICATION

D.1 Training Requirements

Union Drones LLC requires all employees and subcontractors performing UAS-related work to complete training appropriate to their job duties. Training Maintains that personnel have the knowledge and skills necessary to recognize hazards, follow safe work practices, and operate equipment in accordance with company policies, FAA regulations, and GC requirements. Training includes:

- FAA Part 107 Remote Pilot Certificate

- Site-specific safety orientations
- Union Drones LLC internal training modules
- UAS equipment and software training
- Emergency procedures and communication protocols

Training may be delivered through formal classroom instruction, field demonstrations, hands-on practice, or supervised operations.

D.1.a Initial Training

Before participating in field operations, new personnel must receive:

- Introduction to the Union Drones LLC Safety Program
- FAA Part 107 rule overview (for PICs and VOs)
- Company policies on hazard identification and reporting
- UAS-specific hazard controls
- Equipment handling and battery safety
- PPE requirements
- Stop Work Authority procedures
- Communication and coordination practices

All training must be documented and filed in the employee's safety record.

D.1.b Ongoing / Refresher Training

Employees must participate in periodic refresher training, including:

- Annual Safety Program review
- Updates on FAA regulatory changes
- Review of past incidents or near misses
- Updated SOPs or changes in equipment
- GC-specific annual re-orientations (if applicable)
- Review of hazard assessment and risk control procedures

Refresher training Maintains that employees remain competent and up to date.

D.1.c Training for New Equipment or Procedures

Whenever Union Drones LLC introduces new equipment, software, or procedures, affected personnel must be trained in:

- Equipment capabilities and limitations
- Software operation

- New or modified SOPs
- Updated hazard controls
- Maintenance and inspection requirements

Only trained and authorized personnel may use new equipment in the field.

D.2 Competency Requirements

Competency Maintains that personnel can perform their duties safely and effectively. Competency is demonstrated by:

- Successful completion of required training
- Passing knowledge or proficiency evaluations
- Demonstrated safe performance in supervised operations
- Understanding of hazard identification and risk controls
- Adherence to safety policies, SOPs, and GC rules

Supervisors or the Owner/Operations Manager assess employee competency regularly and provide coaching or retraining when necessary.

D.2.a Demonstration of Proficiency

Personnel must show proficiency in:

- Equipment setup and pre-flight inspection
- Operational flight controls (manual and automated modes)
- Communication protocols with VO and GC site personnel
- Emergency procedures (lost link, flyaway, crash response)
- Battery handling and management
- Data capture requirements

Employees who do not meet proficiency requirements may not operate UAS until retrained.

D.2.b Field Evaluation

A field evaluation may be required for:

- New employees
- Personnel returning from extended leave
- Employees involved in an incident
- Introduction of new operational procedures

Evaluations assess practical skills, situational awareness, and ability to apply hazard controls.

D.3 Certification Requirements

Union Drones LLC maintains strict certification requirements for UAS operations.

D.3.a FAA Part 107 Certification (PICs)

The Remote Pilot in Command (PIC) must:

- Hold a valid FAA Part 107 Remote Pilot Certificate
- Maintain currency in accordance with FAA rules
- Carry proof of certification during operations
- Complete FAA recurrent training as required

The Operations Manager verifies certification status before assigning tasks.

D.3.b Visual Observer Qualifications

Visual Observers are not required to hold FAA Part 107 certification but must:

- Understand Part 107 basic provisions
- Be trained in VO duties, communication, and hazard scanning
- Demonstrate situational awareness and attentiveness
- Follow all GC site rules and PPE requirements

D.3.c Site-Specific Certifications (if required)

Some GC sites may require additional certifications such as:

- OSHA 10/30
- First Aid / CPR
- Fall protection awareness
- Equipment orientation certifications
- Project-specific UAS approvals

Union Drones LLC complies with GC requirements and Maintains personnel are certified before entering the site.

D.4 Documentation of Training and Certification

All training and certification records must be:

- Maintained by the Operations Manager
- Stored in a secure company record system
- Presented to GC personnel upon request
- Kept current and updated after each training event

Records include:

- Employee name
- Type of training or certification
- Completion date
- Instructor or issuing organization
- Verification signature (digital or physical)

Training verification supports GC prequalification, audits, and compliance assessments.

D.5 Safety Meetings and Toolbox Talks

Union Drones LLC integrates ongoing communication and safety awareness into field operations through:

- Daily pre-task briefings
- Weekly toolbox talks
- Site-specific safety meetings
- Coordination meetings with GC safety personnel

D.5.a Topics Include:

- Weather hazards
- Airspace hazards
- UAS equipment condition
- Battery safety
- Site changes and new hazards
- PPE updates
- Review of incidents or near-misses
- Flight path adjustments

Safety meetings promote consistency, hazard awareness, and team alignment.

SECTION E – PERSONAL PROTECTIVE EQUIPMENT (PPE)

E.1 PPE Requirements

Personal Protective Equipment (PPE) provides essential protection against hazards that cannot be fully eliminated or controlled through engineering or administrative measures. Union Drones LLC requires all personnel to wear appropriate PPE whenever present on active construction sites or during UAS operations where hazards may be present.
PPE requirements may vary depending on:

- GC site rules
- Project type
- Environmental conditions
- Specific flight operations
- Identified hazards during pre-task planning

At minimum, the PPE listed in this section is required unless otherwise specified by the General Contractor or Operations Manager.

E.1.a Minimum Required PPE

The following PPE is required for all Union Drones LLC personnel entering a construction site:

- **Hard Hat**
  - ANSI Z89.1 compliant
  - Worn at all times unless in designated “no hard hat” zones authorized by GC
- **High-Visibility Vest or Shirt**
  - ANSI Class II or Class III depending on site conditions
  - Required at all times to Maintain visibility around equipment and vehicles
- **Safety Glasses**
  - ANSI Z87.1 compliant
  - Must be worn at all times; tinted lenses allowed in bright conditions
- **Work Boots**
  - Sturdy, closed-toe boots required
  - Slip-resistant soles recommended
  - Some sites require safety toe boots (steel or composite)
- **Hearing Protection (as required)**
  - Ear plugs or ear muffs
  - Required when operating near heavy equipment, generators, or other high-noise sources

E.1.b Additional PPE (Task or Site-Specific)

The following PPE may be required based on the nature of the work, GC rules, or specific hazards identified in the JHA:

- Cut-resistant gloves
- Weather-appropriate protection (sun protection, rain gear, cold-weather gear)
- Respiratory protection (may be required near dust or fumes)
- Arc-flash-rated PPE if near energized equipment
- High-visibility rain gear
- Knee protection (for ground-based inspections and staging tasks)

Operations involving roof access, confined areas, industrial facilities, or critical infrastructure may require more stringent PPE measures.

E.2 UAS-Specific PPE Considerations

During UAS operations, workers may be exposed to unique hazards that require specific PPE or system controls.

E.2.a Eye and Hand Protection

- Safety glasses protect against dust or debris kicked up during takeoff/landing.
- Gloves may be needed when handling batteries or changing props.
- Avoid loose clothing or gloves that reduce dexterity around moving parts.

E.2.b Weather-Related PPE Adjustments

Weather affects UAS operations significantly. Personnel must adjust PPE based on:

- High wind (secure hats, tighten clothing)
- Cold weather (insulated gloves that maintain finger dexterity)
- Rain (high-visibility waterproof gear)
- Sun exposure (sunblock, UV-protective eyewear)

Operations must be paused if weather conditions become hazardous or impede safe performance.

E.3 PPE Inspection, Storage & Maintenance

PPE must be maintained in good condition to provide effective protection.

E.3.a Inspection Requirements

Before each use, personnel must inspect PPE for:

- Cracks or defects in hard hats
- Frayed straps, broken buckles, or tears in high-vis garments
- Scratched or dirty safety glasses
- Damaged boot soles or compromised toe protection
- Contaminated or wet hearing protection

Damaged PPE must be removed from service immediately and replaced.

E.3.b Proper Storage

PPE storage guidelines include:

- Store PPE in dry, clean areas away from direct sunlight
- Keep safety glasses in protective cases to prevent scratches
- Store hard hats to avoid deformation
- Keep high-vis garments clean and free from oil or contaminants
- Maintain boots in good condition with proper drying and cleaning

---

E.3.c Replacement Schedule

PPE must be replaced when:

- Damaged or compromised
- No longer meets ANSI or site requirements
- Manufacturer’s recommended lifespan is exceeded
- Visibility or reflective properties degrade significantly
- PPE fails any inspection criteria

Union Drones LLC Maintains that replacement PPE is available as needed.

E.4 Compliance with GC and Site PPE Rules

General Contractors may require PPE standards above Union Drones LLC's baseline requirements. In such cases:

- GC rules take precedence while onsite
- Additional PPE must be used immediately when directed
- Failure to comply may result in removal from the site

Union Drones LLC personnel must remain aware of changing site conditions and PPE requirements established by GC safety personnel.

SECTION F – UNMANNED AIRCRAFT SYSTEM (UAS) OPERATIONS SAFETY

Union Drones LLC is committed to conducting all Unmanned Aircraft System (UAS) operations safely, professionally, and in full compliance with FAA regulations (14 CFR Part 107), General Contractor (GC) site requirements, and Washington State workplace safety laws. This section defines the safety policies, operational standards, and procedures governing UAS operations in construction and industrial environments.

F.1 General Safety Requirements for UAS Operations

All UAS operations must follow established flight procedures designed to protect people, property, aircraft, and equipment. UAS pilots (Remote PICs) must:

- Hold a valid FAA Remote Pilot Certificate (Part 107)
- Maintain current recurrent training as required by the FAA
- Follow GC site-specific orientation and safety requirements
- Maintain flight operations do not interfere with construction activities
- Maintain direct coordination with GC safety personnel before, during, and after operations

---

F.1.a Roles and Responsibilities

Remote Pilot in Command (RPIC):

- Has full authority over the UAS operation
- Makes the final go/no-go safety decision
- Maintains compliance with FAA regulations
- Conducts hazard assessments and briefings
- Maintains VLOS (Visual Line of Sight)
- Oversees flight crew and visual observers

Visual Observer (VO):

- Maintains continuous line-of-sight on the aircraft
- Communicates hazards, intrusions, or airspace conflicts
- Follows approved communication protocols
- Must be trained in UAS operations and hazard recognition

Ground Crew Member (if applicable):

- Assists with site control, equipment staging, or public interfaces
- Helps maintain exclusion zones
- Supports emergency response actions

F.2 Flight Planning and Pre-Flight Procedures

A thorough pre-flight process is critical to safe UAS operations. The RPIC must complete all steps in this section before takeoff.

F.2.a Airspace Review and Regulatory Check

Before flight, the RPIC must:

- Verify current airspace classification
- Check for **Temporary Flight Restrictions (TFRs)**
- Confirm LAANC authorization if required
- Review NOTAMs and weather
- Identify stadium/event restrictions if applicable

Tools include:
B4UFLY, FAA UAS Facility Maps, AirMap, Aloft/LAANC systems, AirData.

F.2.b Site Reconnaissance & Hazard Assessment

A site walk is required to identify:

- Overhead power lines
- Cranes and heavy equipment movement
- Personnel traffic patterns
- Weather exposure and wind channels
- Obstructions (trees, scaffolding, building edges)
- RF interference sources

Hazards must be included in the Job Hazard Analysis (JHA) or Pre-Task Plan.

F.2.c Equipment Preparation & Inspection

The RPIC must complete a full pre-flight inspection, including:

- UAS airframe condition
- Propellers (damage, stress cracks, seating)
- Battery health and secure mounting
- Controller integrity and firmware status
- Payload/calibration checks
- SD cards installed and formatted
- Compass/IMU calibration if needed

F.2.d Crew Briefing & Communication Protocols

Before flight:

- Review mission objectives
- Assign roles (RPIC, VO, Ground Crew)
- Establish radio/voice communication signals
- Define emergency actions and abort conditions
- Review planned altitude, flight path, and exclusion areas

No aircraft may take off until the briefing is complete.

F.3 In-Flight Operations

The RPIC must maintain safe operation throughout the flight by controlling the aircraft, monitoring hazards, and staying alert to GC activities.

F.3.a Operational Best Practices

- Maintain VLOS at all times
- Keep a safe buffer from structures, cranes, and equipment
- Avoid flying over workers or public areas
- Maintain awareness of lunch breaks, shift changes, or site traffic surges
- Fly predictable paths—avoid erratic maneuvers
- Abort flight immediately if site conditions become unsafe

F.3.b Communication During Flight

RPIC and VO must maintain continuous communication. Standard communication includes:

- Clock-position hazard calls (e.g., “Obstacle at 2 o’clock, 40 feet”)
- Airspace warnings (helicopters, UAVs, cranes in motion)
- People entering exclusion zone
- Equipment entering planned flight corridors

F.3.c Ground Safety & Exclusion Zones

Establish a **minimum 25–50 ft exclusion radius** around the takeoff/landing zone.
Exclusion zone must:

- Be marked or coned off
- Remain free from personnel and equipment
- Be supervised by the RPIC or Ground Crew

F.4 Post-Flight Procedures

All post-flight actions must be completed before departing the site.

F.4.a Aircraft & Battery Inspection

After landing, the RPIC must:

- Power down aircraft safely
- Inspect props and arms for damage
- Maintain batteries are cool before storage
- Document any anomalies or issues

F.4.b Data Security & Backup

Data handling must follow client requirements and Union Drones LLC protocols:

- Verify all images/data are captured
- Back up data before leaving site whenever feasible
- Maintain secure digital storage
- Follow data privacy requirements for client deliverables

F.4.c Flight Logging & Documentation

Document:

- Flight duration
- Battery cycles
- Site notes
- Any deviations from plan
- Anomalies or hazards encountered

Logs must be retained per FAA and company policy.

F.5 High-Risk or Complex Operations

Certain operations require enhanced controls, approvals, or coordination.

F.5.a Operations Near Cranes

- Coordinate directly with crane operators
- Never cross into the swing radius
- Establish dedicated radio or spotter
- Halt operations if crane movement becomes unpredictable

F.5.b Operations Near Power Lines

- Maintain safe lateral separation
- Conduct hazard review with GC or utility if needed
- Implement emergency procedures for flyaways near energized lines

---

F.5.c Operations in Active Work Zones

Includes areas with:

- Excavation
- Formwork
- Steel erection
- Heavy equipment traffic

Additional measures may include:

- Dedicated observers
- Expanded exclusion zones
- GC supervision

F.6 Emergency Procedures

Emergency procedures must be understood by all crew before each flight.

F.6.a Lost Link

- Attempt to regain connection
- Verify antennas positioned correctly
- Move closer to aircraft

- Allow Return-to-Home (RTH) to activate
- Communicate status to GC personnel

F.6.b Flyaway

- Immediately notify site personnel
- Track aircraft if possible
- Document last known altitude and direction
- Secure scene
- Notify GC, and emergency services if risk to public exists

F.6.c Crash or Hard Landing

- Clear area and secure site
- Shut off power to aircraft
- Check for injuries
- Call 911 if necessary
- Notify GC immediately
- Preserve wreckage for investigation
- Remove aircraft from service pending inspection

F.7 Coordination with General Contractor (GC)

Effective coordination Maintains safety and integration with site operations.

F.7.a Pre-Operation Coordination

Before flight, communicate:

- Flight zones
- Exclusion zones
- Timeline
- Equipment being used
- Any special hazards

F.7.b During Operations

- Maintain active communication with GC supervisors
- Report hazards or changes in conditions immediately
- Stop operations upon GC request

F.7.c Post-Operation Coordination

- Notify GC of completion of operations
- Report any incidents or near-misses
- Provide flight logs upon request (when appropriate)

SECTION G – VEHICLE AND DRIVING SAFETY

Union Drones LLC personnel frequently travel to project sites using company or personal vehicles. Safe driving practices and proper vehicle maintenance are essential to reduce risk, protect personnel, and comply with General Contractor (GC) site requirements. This section defines driving policies, vehicle requirements, and on-site traffic safety standards.

G.1 Driver Qualifications and Responsibilities

Union Drones LLC personnel who drive company or personal vehicles for work must meet all applicable legal, insurance, and company requirements.

G.1.a Driver Eligibility Requirements

All drivers must:

- Hold a valid U.S. driver's license
- Maintain an acceptable driving record
- Carry personal auto insurance when using a personal vehicle
- Complete GC-required driving orientation (if applicable)
- Follow all state and local traffic laws
- Report violations or license suspensions immediately

Operations Manager may review driving records periodically.

G.1.b Driver Responsibilities

When driving for work, drivers must:

- Always wear seat belts

- Obey speed limits and posted signage
- Eliminate distractions (phone use is prohibited unless hands-free and permitted by law)
- Never drive under the influence of drugs, alcohol, or impairing medications
- Maintain vehicle is safe and properly maintained
- Use headlights in low-visibility conditions
- Adjust driving behavior for weather, traffic, and road conditions

Drivers must arrive at job sites rested and fit for duty.

G.2 Vehicle Safety Requirements

Whether using a company or personal vehicle, the following requirements apply.

G.2.a Pre-Trip Vehicle Check

Before departing for a job site, drivers must verify:

- Tires are properly inflated and free of visible damage
- Vehicle lights and signals work
- Mirrors are adjusted
- Windshield and windows are clean
- Cargo is properly secured
- Vehicle has adequate fuel range
- Fluids (oil, coolant, washer fluid) are at proper levels

Any unsafe vehicle must be removed from service until repaired.

G.2.b Securing Equipment and UAS Payloads

To prevent damage or hazards during transport:

- UAS aircraft must be stored in protective cases
- Batteries must be secured and protected from heat
- Tools and accessories must be strapped, boxed, or otherwise restrained
- Heavy items must not be placed unsecured in seating areas
- Vehicle must not be overloaded

Properly secured equipment reduces risk during sudden stops or accidents.

G.3 On-Site Vehicle Operating Requirements

Construction sites often contain pedestrian traffic, heavy equipment, uneven terrain, and restricted zones. Drivers must operate vehicles with heightened caution.

G.3.a Site Entry and Coordination

Upon arrival at a job site:

- Check in with GC site office or safety lead
- Follow designated parking and vehicle routes
- Obey GC-issued vehicle passes or stickers
- Follow speed limits, typically **5–10 MPH**
- Drive with headlights on at all times
- Yield to heavy equipment, spotters, and pedestrians

Never enter restricted zones without explicit authorization.

G.3.b Parking and Staging

Vehicles must be:

- Parked only in designated areas
- Clear of fire lanes, equipment paths, and loading zones
- Positioned on solid, stable ground
- Oriented to allow safe loading/unloading of equipment
- Locked when unattended (unless directed by GC otherwise)

Parking near flammable materials or energized equipment is prohibited.

G.3.c Work Zone Awareness

Drivers must stay aware of:

- Blind spots of heavy equipment
- Reversing trucks or forklifts
- Excavation edges or soft ground
- Overhead loads (cranes, boom lifts)
- Workers on foot

If visibility is limited:

- Use spotters
- Avoid backing whenever possible
- Stop and reassess route

G.4 Distracted, Impaired, and Fatigued Driving

Union Drones LLC enforces strict rules against unsafe driving behaviors.

G.4.a Distracted Driving

Prohibited activities include:

- Texting
- Browsing apps
- Taking photographs
- Holding a phone while driving
- Adjusting equipment or UAS gear while vehicle is moving

Hands-free use is permitted only if required for navigation and compliant with state law.

G.4.b Impaired Driving

Driving is prohibited under:

- Drugs or alcohol
- Prescription medications affecting alertness
- Severe fatigue or illness

Drivers must notify the Operations Manager if they feel unfit to drive.

G.4.c Fatigue Management

Drivers must:

- Rest adequately before long drives
- Take breaks every 2–3 hours
- Pull over if fatigued
- Avoid driving after excessively long field days

Fatigue impairs judgment and reaction time as severely as alcohol.

G.5 Incident Reporting and Vehicle Accidents

All vehicle-related incidents must be reported immediately.

G.5.a Incident Types That Must Be Reported

Report the following immediately to the Operations Manager:

- Vehicle collisions (on or off site)
- Near misses
- Damage to equipment
- Cargo shifts or unsecured loads
- Injuries involving vehicles or equipment
- Violations or citations received while driving for work

GCs may also require direct reporting to their safety team.

G.5.b Post-Incident Actions

After an incident:

- Maintain everyone's safety first
- Call 911 for injuries or hazardous conditions
- Secure the scene
- Document and photograph damage
- Notify GC if incident occurred on site
- Submit a company incident report
- Vehicle may require inspection before being used again

SECTION H – WORKING AT HEIGHTS & ROOF ACCESS

Union Drones LLC personnel occasionally access elevated locations such as rooftops, platforms, or upper story vantage points to conduct flight operations, establish launch areas, or perform site assessments. These activities involve fall hazards that must be controlled through careful planning, appropriate equipment, and strict adherence to safety regulations.
This section complies with:

- OSHA 29 CFR 1926 Subpart M (Fall Protection)
- Washington State WAC 296-880 (Fall Protection Rules)
- Applicable General Contractor site requirements

H.1 General Fall Protection Requirements

Fall hazards must be mitigated anytime personnel are exposed to unprotected edges, openings, or elevated work surfaces. Fall protection is required:

- At **4 feet** of elevation in Washington State (general industry)
- At **6 feet** in construction environments (OSHA standard)
- On **any unprotected roof edge**, regardless of height on GC-controlled sites

Union Drones LLC follows the stricter requirement whenever there is a conflict between rules.

H.1.a Authorized Personnel Only

Only trained and authorized personnel may access:

- Roofs
- Elevated platforms
- Scaffolding
- Aerial lifts or boom lifts
- Structural framing or mezzanines

Authorization is granted by the Operations Manager following training review.

H.1.b Environmental and Site Conditions

Personnel must assess environmental conditions before accessing heights:

- Wind
- Rain or slick surfaces
- Ice or frost
- Poor visibility
- Loose debris or unstable surfaces

Access is prohibited when conditions increase fall risk beyond acceptable limits.

H.2 Roof Access Requirements

UAS operations may require rooftop access for takeoff, landing, signal optimization, or line-of-sight requirements. Rooftop work requires adherence to the procedures in this section.

H.2.a Pre-Access Assessment

Before accessing a roof, personnel must:

- Confirm GC approval for roof entry

- Review the site's fall protection plan
- Identify anchor points, guardrails, skylights, and hazards
- Conduct a slip/trip hazard assessment
- Determine safest access route (ladder, stairwell, hatch)

Workers must never access a roof without GC notification and authorization.

H.2.b Fall Protection on Roofs

Depending on the roof type and conditions, fall protection may include:

- Guardrails
- Warning lines (low-slope roofs only)
- Fall restraint systems
- Personal Fall Arrest Systems (PFAS)
- Designated access zones under GC supervision

Skylights must be treated as **holes** and guarded or covered appropriately.
No UAS operation may occur within **15 feet of an unprotected roof edge** without fall protection.

H.2.c Safe Work Practices on Roofs

On all roof surfaces:

- Maintain situational awareness of edges
- Avoid walking backward while piloting
- Keep equipment organized and secure
- Establish a safe takeoff/landing zone
- Maintain communication with ground crew
- Do not operate UAS in winds exceeding manufacturer limits or safe footing conditions

---

H.3 Ladder Use and Access Equipment

When ladders or temporary access systems are required, personnel must follow safe ladder practices consistent with OSHA and GC requirements.

H.3.a Ladder Selection and Inspection

Before use:

- Select ladders of appropriate height and duty rating
- Inspect for cracks, bent rails, damaged rungs, or loose hardware
- Maintain clean, dry surfaces (no oil or mud)
- Confirm spreaders lock fully on step ladders

Damaged ladders must be tagged out and removed from service.

H.3.b Ladder Setup and Use

During ladder use:

- Maintain 3-point contact at all times
- Do not carry equipment while climbing
- Position extension ladders at the 4:1 angle
- Extend ladder at least 3 feet above landing surface
- Secure ladder top when feasible
- Keep ladder clear of doorways, walkways, and vehicle paths

Personnel must not lean or overreach while on a ladder.

H.4 Fall Protection Equipment

Fall protection equipment must be inspected, maintained, and used correctly.

H.4.a Personal Fall Arrest System (PFAS)

A PFAS must include:

- Full body harness (ANSI Z359.11)
- Shock-absorbing lanyard or self-retracting lifeline
- Approved anchor point rated for 5,000 lbs or engineered system

Before use:

- Inspect harness for cuts, burns, loose stitching
- Inspect lanyard for deformation or hardware defects
- Verify anchor point integrity with GC or competent person

H.4.b Fall Restraint Systems

Fall restraint systems prevent a worker from reaching an edge.
Use is permitted only when:

- Anchor points are suitable for restraint
- Lanyard length prevents exposure to edges
- Worker remains fully within safe access zones

These systems do **not** allow for free fall.

H.4.c Equipment Care & Storage

To Maintain reliability:

- Store harnesses in cool, dry areas
- Keep ropes and lanyards free of chemicals and UV damage
- Tag out worn or damaged equipment
- Do not share harnesses unless inspected and adjusted properly

---

H.5 Rescue and Emergency Procedures

Every elevated work activity must include a rescue plan.

H.5.a Self-Rescue and Assisted Rescue

Rescue procedures must include:

- Immediate contact with GC site safety personnel
- Dialing emergency services if needed
- Use of on-site rescue equipment (if applicable)
- Avoiding entry into hazardous areas without proper equipment

Union Drones LLC personnel do **not** perform complex rope rescues and will rely on GC plans.

H.5.b Incident Response from Heights

If a fall, trip, or collapse occurs:

- Maintain area is safe
- Contact GC safety team immediately
- Provide first aid if trained and safe to do so
- Report all incidents and near-misses to Operations Manager
- Secure the area for investigation

H.6 Training and Competency Requirements

Personnel must complete fall protection and roof access training before performing elevated work.

H.6.a Required Training

Training includes:

- Washington State fall protection standards
- Ladder safety and inspection
- PFAS use and inspection
- Roof access procedures
- Hazard recognition for heights
- Slip, trip, and weather hazard recognition

Training must be renewed as required by regulation or GC policy.

H.6.b Competency Verification

Workers must demonstrate:

- Understanding of fall hazards
- Ability to inspect and use equipment
- Effective communication and situational awareness
- Knowledge of GC-specific fall protection requirements

Only competent and authorized personnel may work at heights.

SECTION I – SITE ACCESS, VISITOR MANAGEMENT & GC COORDINATION

Union Drones LLC personnel frequently operate on active construction sites managed by General Contractors (GCs). Proper site access procedures, visitor control, and communication with GC staff support safe and efficient operations. This section outlines the expectations for entering, working within, and exiting GC-controlled job sites.

I.1 Site Access Requirements

Union Drones LLC personnel must comply with all GC access control processes prior to entering any job site. Site entry rules vary but typically include:

- Sign-in procedures
- Safety orientation
- PPE verification
- Vehicle access protocols
- Issued badges or credentials

No work may begin until all required access steps are completed.

I.1.a Daily Sign-In and Check-In Procedures

Each day on site, personnel must:

- Sign in at the GC office, trailer, or digital kiosk
- Review any safety bulletins or daily updates
- Confirm acceptable PPE is worn
- Communicate planned work areas and flight zones to GC site safety
- Obtain permission to access designated areas

Sign-out procedures must also be followed before leaving the site.

I.1.b GC Site Orientation Requirements

Before performing work on any GC site, personnel must:

- Complete mandatory GC site orientation
- Review emergency procedures and evacuation routes
- Learn site-specific hazards
- Understand reporting expectations for incidents or near-misses
- Follow restricted access requirements (rooftops, mechanical rooms, etc.)

Orientation records must be kept on file by Union Drones LLC.

I.2 Coordination with GC Safety Personnel

Successful coordination with GC safety teams supports UAS operations integrate smoothly with construction workflows and maintain worker safety.

I.2.a Pre-Task Briefings with GC

Prior to conducting work, the RPIC must coordinate with the GC to:

- Identify flight areas, ground crew positions, and exclusion zones
- Review crane movements, equipment paths, and critical operations
- Confirm timing (start/stop times, lunch breaks, shift changes)
- Coordinate with site foremen or superintendents
- Verify acceptable communication channels (radio, phone, in-person)

No UAS flight may begin without GC awareness and agreement.

I.2.b During Operations

Throughout operations:

- Maintain real-time communication with GC supervisors
- Notify GC of changes in flight path or timing
- Immediately report any unsafe conditions
- Suspend operations when GC requests or when hazards arise

GC instructions take precedence while on their site.

I.2.c Post-Operation Deconfliction & Sign-Out

After operations:

- Notify GC site lead that flight work is complete
- Remove exclusion markers or cones
- Maintain all equipment is packed and no debris is left
- Sign out using GC's established procedure
- Report any incidents, near-misses, or observations

I.3 Visitor & Third-Party Interaction Management

Union Drones LLC personnel may encounter visitors, inspectors, owners' representatives, or other subcontractors. It is critical to maintain safe public interaction during UAS operations.

I.3.a Establishing and Maintaining Safe Work Zones

The RPIC is responsible for implementing and maintaining controls to:

- Prevent visitors from entering active UAS exclusion zones
- Use cones, barricades, or signs are used as needed
- Assign a ground crew member or VO to intercept unauthorized individuals
- Manage public interfaces professionally and safely

I.3.b Communicating with Other Subcontractors

Prior to flight, the RPIC should:

- Brief nearby trades on flight timing
- Identify equipment or materials that may pose hazards
- Determine whether trades activities will interfere with safe operation
- Maintain open communication throughout the operation

Clear communication prevents conflicts with cranes, manlifts, concrete pours, and other critical activities.

I.4 Restricted Areas & Controlled Access Zones

Some areas require additional permission or escort to enter, including:

- Rooftops
- Mechanical rooms
- Electrical rooms
- Areas near active crane lifts
- Excavation zones
- Confined or partially enclosed areas

Union Drones LLC personnel must **never** enter these areas without GC approval.

I.4.a Hazardous Location Controls

Personnel must avoid entering:

- Fall protection-controlled areas
- Chemical storage zones
- Energized equipment areas
- Areas with overhead lifting operations
- Unshored or unstable excavation zones

When UAS operations require proximity to such areas, enhanced controls and GC escort are mandatory.

I.4.b Rooftop Access Coordination

For rooftop operations (see Section H):

- Review GC fall protection plan
- Maintain lockable access points are secured
- Notify GC at the start and end of rooftop work
- Follow all posted or communicated roof access limitations

I.5 Delivery Requirements for Safety Documentation

Access to certain jobsites may require Union Drones LLC to submit safety-related documentation as part of the General Contractor's prequalification, onboarding, or site-specific approval process. Union Drones LLC will provide documentation as requested by the General Contractor, Owner, or regulatory authority and only to the extent required for the scope of work being performed. Requested documentation may include, but is not limited to:

- Certificate of Insurance (COI)
- Union Drones LLC Safety Manual
- Job Hazard Analyses (JHAs) relevant to planned tasks
- Site-Specific Safety Plans (SSSPs), when required by the GC
- Remote Pilot in Command (RPIC) and crew certifications (FAA Part 107)
- Applicable training records for involved personnel
- Equipment lists for UAS and related safety gear
- Safety Data Sheets (SDS), if batteries, chemicals, or other materials (Spray Paint) used on site require them

All documentation provided will be current, accurate, and submitted within the deadlines communicated by the GC or project team.

I.6 Emergency Access and Evacuation Compliance

Union Drones LLC personnel must follow all GC emergency procedures.
In an emergency:

- Stop all UAS operations immediately
- Land aircraft safely if time permits
- Follow evacuation routes
- Proceed to designated assembly points
- Wait for GC or emergency personnel instructions
- Report headcount to GC safety officers

Evacuation routes and emergency plans must be reviewed during orientation and pre-task planning.

SECTION J – INCIDENT & NEAR-MISS REPORTING AND INVESTIGATION

Union Drones LLC requires immediate reporting and thorough investigation of all incidents, near-misses, unsafe conditions, and equipment failures. Rapid reporting helps prevent recurrence, improves safety culture, and supports compliance with GC, OSHA, and Washington State requirements.
This section defines reporting responsibilities, timelines, investigation procedures, and documentation requirements.

J.1 Definitions & Reporting Requirements

A clear understanding of incident categories supports appropriate reporting and response actions.

J.1.a Incident Definition

An **incident** includes any unplanned event that results in:

- Injury or illness
- Property or equipment damage
- Aircraft or vehicle damage
- Fire, spill, or hazardous release
- Damage to client, GC, or public property
- Loss of control of the UAS (crash, flyaway, unintended landing)

All incidents require immediate reporting.

J.1.b Near-Miss Definition

A **near-miss** is any unplanned event that did **not** result in injury or damage, but had the potential to do so.
Examples:

- Aircraft unexpected close approach to crane boom
- Unauthorized person entering exclusion zone
- Sudden power line proximity
- Trip hazard discovered in staging area
- Battery overheating detected before failure

Near-misses must be reported because they signal underlying issues.

J.1.c Unsafe Conditions

Unsafe conditions include any situation that increases the likelihood of an incident, such as:

- Unsafe weather
- Slippery surfaces
- Damaged PPE
- GC operations creating unexpected hazards
- Interruptions to UAS flight path

All unsafe conditions must be reported to prevent escalation.

J.2 Immediate Actions Following an Incident or Near-Miss

When an incident or near-miss occurs, the first priority is ensuring safety.

J.2.a Protect Personnel and Secure the Area

- Stop all work immediately
- Land UAS safely (if airborne)
- Check for injuries
- Contact emergency services if needed (Dial 911)
- Notify GC safety immediately
- Prevent unauthorized access to the area
- Preserve scene for investigation

J.2.b Notify Union Drones LLC Management

The Remote PIC or employee involved must notify:

- **Operations Manager**
- **Owner/Principal**

Notification should be immediate via phone, radio, or in person.

J.2.c Initial Documentation

Capture initial information:

- Time, date, and location
- Weather conditions
- Equipment involved
- Photos or videos
- Witness names
- Description of event
- UAS telemetry or logs (if available)

This early documentation helps preserve facts before memories fade.

J.3 Formal Incident Reporting Process

All incidents and near-misses must be documented formally.

J.3.a Required Forms and Documentation

At minimum, documentation includes:

- Union Drones LLC Incident Report Form
- GC-required incident form (if applicable)
- Pictures, diagrams, site sketches
- Witness statements
- Equipment inspection reports
- FAA reports (if required)

J.3.b FAA Reporting Requirements (UAS-Specific)

Under 14 CFR Part 107.9, the FAA must be notified **within 10 days** if:

- Serious injury occurs
- Any property damage exceeds $500
- A complete loss of control or flyaway results in significant risk

Union Drones LLC will coordinate with the FAA when these conditions apply.

J.3.c GC Reporting Requirements

Per GCs requires:

- Immediate verbal notification
- Written reports within 24 hours
- Joint incident review
- Submission of drone telemetry or logs upon request
- Suspension of work pending safety review

Union Drones LLC must follow the GC's process when on their site.

J.4 Investigation and Root Cause Analysis (RCA)

Understanding root causes prevents recurrence and strengthens safety culture.

J.4.a Investigation Responsibilities

The Operations Manager leads investigations with support from:

- Remote PIC
- Witnesses
- GC safety personnel
- Equipment specialists (if needed)

J.4.b Investigation Process

A typical investigation includes:

- Site walkthrough
- Interviewing involved personnel
- Reviewing flight logs, telemetry, and video

- Assessing weather, obstacles, or RF conditions
- Examining equipment for defects
- Evaluating adequacy of controls and JHA

J.4.c Root Cause Classification

Causes may include:

- Equipment malfunction
- Environmental factors
- Human error (fatigue, distraction, misjudgment)
- Procedural gaps
- Inadequate planning or hazard recognition
- GC site changes or communication failures

The root cause must be documented clearly and factually.

J.5 Corrective and Preventive Actions (CAPA)

Following investigation, corrective actions must be implemented.

J.5.a Corrective Actions

Corrective actions address immediate hazards and may include:

- Equipment repair or replacement
- Retraining personnel
- Adjusting procedures or flight processes
- Removing unsafe equipment from service
- Revising JHAs and work plans

J.5.b Preventive Actions

Preventive actions reduce the likelihood of recurrence:

- Enhanced pre-flight briefings
- Expanded exclusion zones
- Updated weather thresholds
- Improved communication protocols
- Better coordination with GC equipment operators

J.6 Recordkeeping and Data Retention

Union Drones LLC maintains records in accordance with OSHA, FAA, and GC requirements.

J.6.a Required Retention Periods

- Incident and near-miss reports: **5 years**
- FAA notifications: **per FAA guidance**
- UAS flight logs: **minimum 12 months**, preferably longer
- Training records: **per company training standard**

J.6.b Confidentiality and Access to Records

Records will:

- Be stored securely
- Not be shared outside the company except with GC or regulatory agencies
- Be accessible to the Owner/Principal and Operations Manager
- Be organized for quick retrieval during audits or prequalification reviews

SECTION K – SUBSTANCE ABUSE & FIT-FOR-DUTY POLICY

Union Drones LLC is committed to providing a safe and productive work environment. Employees must report to work physically and mentally fit for duty, free from the influence of alcohol, illegal drugs, or any substance that impairs performance, judgment, or reaction time. Because UAS operations involve elevated risks—airspace navigation, electrical hazards, rooftop access, and coordination with heavy equipment—fit-for-duty is essential for safety.
This policy aligns with federal law (FAA), Washington State law (WISHA), and General Contractor requirements.

K.1 General Policy Statement

Union Drones LLC maintains a **zero-tolerance policy** for drug or alcohol impairment during work hours, while operating a UAS, or while present on a job site controlled by a GC. Employees must be able to perform their duties safely and competently at all times.

K.1.a Compliance with Federal and State Requirements

- FAA regulations prohibit operation of aircraft (including UAS) under the influence of drugs or alcohol.
- Washington State law requires employers to implement measures to prevent employees from working while impaired.
- GC policies may impose additional requirements (e.g., pre-access testing).

Union Drones LLC must follow the **strictest** applicable rule.

K.1.b Impairing Substances Defined

Impairing substances include:

- Alcohol
- Illegal drugs
- Marijuana or THC-containing products (even if legal under state law)
- Prescription or over-the-counter medications that cause impairment
- Any substance that reduces alertness, coordination, or judgment

Per FAA regulations, **marijuana is prohibited**, regardless of state legality.

K.2 Fit-for-Duty Requirements

All employees must report to work in a condition that allows them to safely perform their duties.

K.2.a Signs of Impairment

Impairment indicators include:

- Slurred speech
- Loss of coordination or balance
- Odor of alcohol or marijuana
- Confusion, fatigue, or unusual behavior
- Slow reactions
- Difficulty concentrating
- Red or glassy eyes

Any sign of impairment must be reported immediately.

K.2.b Fatigue and Illness

Workers must be fit to work even if no substances are involved. Personnel must not perform duties if:

- Excessively fatigued
- Ill enough to affect performance
- Under influence of medications causing drowsiness or slowed response
- Experiencing severe stress or distraction

Fatigue impairs UAS operation and driving as significantly as alcohol.

K.3 Testing Requirements and GC Policies

Some GCs and owners require drug and alcohol testing as part of their safety programs.

K.3.a Pre-Employment or Pre-Access Testing

Union Drones LLC may be required to submit:

- Pre-employment drug test results
- Pre-access test results before entering specific job sites
- Random test results if mandated by GC policy

Contract compliance requires cooperating with GC testing procedures.

K.3.b Random or Post-Incident Testing

GC or owner-mandated testing may occur:

- After an incident or near-miss
- After a vehicle accident
- Upon reasonable suspicion
- Randomly, depending on site policies

Union Drones LLC personnel must comply with these requirements.

K.3.c Reasonable Suspicion Testing

Reasonable suspicion may be based on:

- Observable signs of impairment
- Erratic behavior
- Odor of drugs or alcohol

- Credible reports from GC staff
- Significant performance decline

The Operations Manager will coordinate testing when justified.

K.4 Reporting Procedures and Responsibilities

Employees and supervisors share responsibility for maintaining a safe, drug-free workplace.

K.4.a Employee Responsibilities

Employees must:

- Report to work fit for duty
- Notify Operations Manager if taking impairing medications
- Inform manager if they believe another worker may be impaired
- Follow all GC and FAA requirements
- Self-report substance misuse concerns when appropriate

K.4.b Supervisor Responsibilities

Supervisors (or the Owner/Principal) must:

- Remove impaired personnel from duties immediately
- Document observed behaviors
- Contact GC safety team when required
- Coordinate testing when needed
- Maintain confidentiality to the extent allowed by law

Supervisors must act promptly to identify hazards, address unsafe conditions, and reduce risk.

K.5 Prohibited Behaviors

The following behaviors are strictly prohibited:

- Using drugs or alcohol while working
- Consuming alcohol during lunch or breaks on GC sites
- Possessing illegal drugs or open alcohol containers at work
- Arriving to work under the influence
- Operating a UAS or vehicle while impaired
- Using THC-containing products within FAA-prohibited windows

K.6 Prescription Medication Use

Union Drones LLC recognizes that some employees may require medication.

K.6.a Employee Obligations

Employees must:

- Inform the Operations Manager if prescribed medication causes impairment
- Request temporary reassignment if necessary
- Not operate UAS or vehicles while taking impairing medication
- Follow physician instructions and label warnings

Confidentiality of medical information will be maintained.

K.6.b Company and GC Requirements

Some GC policies require:

- Disclosure of impairing medications (in private)
- Fitness-for-duty evaluation
- Temporary assignment restrictions

Union Drones LLC will comply with all GC requirements.

K.7 Consequences for Policy Violations

Safety is a priority, and substance policy violations carry serious consequences.

K.7.a Disciplinary Actions

Depending on severity, consequences may include:

- Removal from job site
- Suspension of duties
- Mandatory testing
- Temporary reassignment
- Employment termination

Union Drones LLC reserves the right to apply the strictest consequence needed to maintain safety and compliance.

K.7.b FAA Implications

For Remote Pilots:

- FAA may suspend or revoke certificates for substance-related violations
- Incidents involving impairment must be reported
- Violations may restrict ability to operate commercially

Compliance is critical to maintaining licMaintain.

K.8 Confidentiality & Employee Assistance

Union Drones LLC treats all substance-related matters with discretion.

K.8.a Confidentiality of Records

All substance-related records will be:

- Stored securely
- Accessible only to authorized personnel
- Shared only with GC or regulatory authorities when required

---

K.8.b Employee Support Resources

Where appropriate, Union Drones LLC may support employees in seeking assistance for substance-related issues through:

- Medical providers
- Community recovery programs
- Mental health services

Employees are encouraged to seek help proactively.

SECTION L – EMERGENCY ACTION PLANNING & RESPONSE

Union Drones LLC is committed to effective planning and response during emergencies. Emergencies may involve medical incidents, severe weather, structural hazards, UAS malfunctions, fire, or hazardous materials. This section outlines responsibilities, actions, and communication procedures to protect personnel, clients, and the public.
This section is aligned with:

- OSHA 29 CFR 1926.35 (Emergency Action Plans)
- Washington State WAC requirements
- GC emergency procedures
- FAA requirements for UAS emergency response

L.1 General Emergency Requirements

All personnel must be familiar with:

- GC emergency plans
- Evacuation routes
- Assembly points
- Communication procedures
- Medical response procedures

Union Drones LLC personnel must follow **GC instructions first**, then company procedures.

L.1.a Emergency Types Covered by This Plan

Emergencies include, but are not limited to:

- Medical incidents involving workers or visitors
- Fire or explosion
- Severe weather (lightning, high winds, hail)
- Structural instability or collapse
- UAS crashes, flyaways, or battery failures
- Power line contact or electrical hazards
- Hazardous materials exposure or spill
- Security threats

L.1.b Responsibilities of Union Drones LLC Personnel

All personnel must:

- Remain calm and act quickly
- Follow GC emergency signals and directions
- Stop UAS operations immediately
- Assist only if trained and safe to do so
- Report missing personnel to GC safety team
- Communicate status to Operations Manager

L.2 Emergency Response Roles

Defined roles Maintain organized and efficient responses.

L.2.a Remote Pilot in Command (RPIC)

In an emergency, the RPIC must:

- Land the aircraft immediately if safe to do so
- Maintain crew safety
- Follow GC evacuation or emergency plans
- Secure equipment if possible
- Report status to GC and Operations Manager
- Preserve UAS equipment involved in an incident

L.2.b Visual Observer (VO)

The VO must:

- Monitor surroundings for hazards
- Communicate emergency hazards to RPIC
- Assist evacuation of exclusion zones
- Provide situational awareness to RPIC during emergencies

L.2.c Ground Crew (If Assigned)

Ground crew members may:

- Establish safe staging areas
- Direct personnel away from hazards
- Assist with emergency communication
- Secure equipment or barricade hazardous areas

L.3 Medical Emergencies

Union Drones LLC personnel must respond appropriately to medical emergencies.

L.3.a Immediate Actions

When someone is injured or ill:

- Call **911** immediately for severe injuries
- Notify the GC site safety officer
- Provide first aid **only if trained and safe**
- Do not move injured persons unless in immediate danger
- Clear unnecessary personnel from the area
- Secure the site and prevent additional hazards

L.3.b Reporting Requirements

Report medical emergencies to:

- GC site safety
- Operations Manager
- Owner/Principal (for serious incidents)

Documentation must follow Section J procedures.

L.4 Fire, Explosion & Hazardous Materials Incidents

Some job sites contain flammable materials, chemicals, or fuel sources.

L.4.a Fire Response

In case of fire:

- Sound the alarm
- Follow GC evacuation plan
- Use a fire extinguisher **only if trained and safe**
- Do not attempt to fight large or spreading fires
- Avoid UAS battery fires—treat as hazardous

L.4.b Lithium Battery Failure or Fire

UAS batteries can fail violently. If a battery overheats, swells, smokes, or ignites:

- Evacuate personnel away from the battery
- Do **not** touch or move a compromised battery
- Notify GC immediately
- Allow trained personnel or emergency responders to extinguish the fire
- Treat as hazardous waste per GC or local guidelines

L.4.c Hazardous Material Release

If exposed to a chemical or hazardous material:

- Evacuate the area
- Follow GC hazardous response procedures
- Report exposure immediately
- Avoid attempting cleanup unless authorized

L.5 Severe Weather Procedures

Weather can significantly impact UAS safety and site conditions.

L.5.a Weather Conditions Requiring Immediate Suspension of Work

Stop operations when:

- Lightning is observed within 10 miles
- High winds exceed manufacturer or GC thresholds
- Heavy rain impairs visibility or safety
- Ice, frost, or slick surfaces increase fall risk
- Fog or smoke limits UAS line-of-sight

GC weather rules override company standards.

L.5.b High-Wind Flight Restrictions

UAS may not be flown in:

- Gusts exceeding aircraft capability
- Turbulent rooftop wind conditions
- High-risk crane operations during gust conditions

Evaluate wind impacts at ground level and elevated platforms.

L.5.c Heat and Cold Exposure Risks

Monitor for:

- Heat stress
- Hypothermia
- Reduced battery performance in cold
- Worker dehydration

Adjust work schedules accordingly.

L.6 Evacuation Procedures

During any evacuation initiated by GC or emergency services:

L.6.a Evacuation Steps

- Stop all UAS operations immediately

- Land the drone (if safe)
- Follow marked evacuation routes
- Proceed to designated assembly point
- Check in with GC safety staff for headcount
- Do not re-enter until cleared by GC

L.6.b Accountability & Roll Call

The RPIC must Maintain:

- All Union Drones LLC personnel are accounted for
- Missing personnel are reported immediately
- GC staff are informed of any concerns

L.7 UAS-Specific Emergency Actions

This section supplements emergency procedures listed in **Section F**.

L.7.a Lost Link Response

- Attempt reconnection
- Position antennas properly
- Move closer to aircraft
- Monitor Return-to-Home (RTH) behavior carefully
- Notify GC if aircraft behavior is abnormal

L.7.b Flyaway Response

- Alert all personnel
- Track aircraft if possible
- Document last known position
- Notify GC safety immediately
- Contact emergency services if risk to public exists
- Preserve flight logs for investigation

L.7.c Crash or Hard Landing Response

- Secure the area
- Power down aircraft if safe

- Check for fire, smoke, or lithium battery issues
- Notify GC and Operations Manager
- Photograph and preserve the scene
- Follow incident reporting procedures in Section J

L.8 Post-Emergency Recovery and Restart Procedures

Following any emergency:

L.8.a Site Restoration and Debrief

- Remove cones, tape, or control markings
- Verify equipment status
- Conduct a post-event debrief
- Update JHA or procedures as needed

L.8.b Authorization to Resume Work

Work may resume only when:

- GC site lead authorizes restart
- RPIC confirms conditions safe
- All hazards are mitigated
- Required documentation is complete

SECTION M – SAFETY MEETINGS, COMMUNICATION & SAFETY CULTURE

A strong safety culture is essential to the success of Union Drones LLC. Effective communication, consistent safety meetings, and ongoing employee engagement help identify hazards, reduce incidents, and reinforce safe practices across all operations. This section outlines expectations and processes for safety communication within the company and while operating on GC-controlled job sites.

M.1 Safety Meetings and Briefings

Regular safety meetings Maintain all personnel understand hazards, procedures, and expectations.

M.1.a Daily Pre-Task Safety Briefings

Before any UAS operation—especially on construction sites—the Remote PIC must conduct a **pre-task safety briefing** covering:

- Mission objective
- Identified hazards
- Weather and environmental considerations
- Work zone layout and exclusion zones
- UAV flight path and altitude
- Emergency procedures
- Roles and responsibilities (RPIC, VO, Ground Crew)
- Coordination with GC, subcontractors, or site foremen

These briefings may be verbal but must be documented in the daily JHA/Pre-Task Plan.

M.1.b Weekly or Project-Based Safety Meetings

Union Drones LLC will conduct weekly or project-based safety discussions to:

- Review incidents and near-misses
- Discuss changes in procedures
- Address recurring hazards
- Reinforce best practices
- Review updates to FAA or GC safety requirements

These meetings improve consistency and reinforce a safety-first culture.

M.1.c Toolbox Talks (GC-Provided or Company-Provided)

When required by GCs or beneficial for operations, Union Drones LLC will:

- Conduct toolbox talks on topics relevant to UAS operations (e.g., battery handling, weather hazards, rooftop safety)
- Participate in GC-wide toolbox talks
- Document attendance
- Maintain copies of toolbox talk topics

Toolbox talks must be short, interactive, and focused on a single hazard or behavior.

M.2 Safety Communication Protocols

Clear communication is essential for safe UAS operations and site coordination.

M.2.a Internal Communication

Communication within Union Drones LLC must be:

- Prompt
- Accurate
- Documented when necessary
- Directed to the correct supervisor or stakeholder

Topics requiring communication include:

- Weather changes
- Equipment issues
- Hazard discoveries
- Client or GC concerns
- Near-misses or unsafe conditions

M.2.b Communication with General Contractors (GCs)

While on GC job sites, personnel must:

- Communicate flight start/end times
- Notify GC before entering restricted areas
- Report hazards or unsafe conditions immediately
- Follow GC radio or phone protocols
- Inform GC of any operational changes
- Participate in pre-construction or pre-task coordination meetings

GC communication always takes priority while on their site.

M.2.c Hazard Reporting

All personnel must immediately report:

- Unsafe conditions
- Equipment failures
- Weather hazards
- Construction activities affecting UAS operations

- Any situation that increases risk

Reports must be made to:

- Operations Manager
- GC site safety
- Owner/Principal (for critical items)

Prompt reporting supports hazard mitigation and improves safety culture.

M.3 Building and Maintaining a Safety Culture

Union Drones LLC is committed to a proactive, engaged, and positive safety culture.

M.3.a Expectations for All Personnel

Personnel must:

- Give Priority to Safety
- Speak up when hazards arise
- Participate actively in briefings and meetings
- Follow PPE requirements
- Support hazard controls
- Respect GC site rules and personnel

M.3.b Management Commitment

Management demonstrates commitment through:

- Providing adequate PPE and equipment
- Supporting training and certification
- Conducting field audits
- Reviewing incident data and near-misses
- Leading by example
- Acting immediately on reported hazards

M.3.c Open-Door Safety Communication

Union Drones LLC encourages open, blame-free communication related to safety concerns. Employees may report hazards or unsafe conditions:

- Verbally/Phone (360-233-7213)
- Via text (360-233-7213)
- Email (contact@uniondrones.net)
- Directly to the Owner

Retaliation for reporting hazards is strictly prohibited.

M.4 Documentation, Tracking & Continuous Improvement

Safety meeting documentation Maintains accountability and continuous improvement.

M.4.a Safety Meeting Records

Records must include:

- Date
- Topics discussed
- Attendees
- Action items
- Any changes to procedures

Documents must be stored securely.

M.4.b Action Item Tracking

Issues identified during meetings must be:

- Assigned to responsible personnel
- Given completion deadlines
- Verified upon completion
- Tracked for recurring patterns

M.4.c Continuous Improvement Process

The company will:

- Perform regular program reviews
- Adjust procedures based on lessons learned

- Update training materials as needed
- Incorporate GC feedback
- Participate in professional safety networks or FAA updates

Continuous improvement strengthens quality, safety, and client trust.

SECTION N – DOCUMENTATION, RECORDKEEPING & RETENTION

Union Drones LLC maintains all safety, operational, and regulatory documents in a secure and organized manner to Maintain compliance with Washington State requirements, FAA regulations, General Contractor (GC) expectations, and internal quality standards. Accurate recordkeeping supports audits, incident investigations, insurance requirements, and continuous improvement. This section establishes the required categories of documentation, the retention periods for each record type, and the approved methods for secure storage and retrieval.

N.1 General Recordkeeping Requirements

Union Drones LLC maintains records to comply with:

- FAA Part 107 requirements
- OSHA and WISHA documentation rules
- GC contract and prequalification requirements
- Insurance and risk management needs

Records must be:

- Complete
- Accurate
- Legible
- Secure
- Accessible to authorized personnel

N.1.a Digital Recordkeeping Systems

Union Drones LLC uses secure digital systems for record storage, including:

- Encrypted cloud storage
    - Union Drones LLC stores operational and safety records in encrypted cloud environments such as OneDrive, Dropbox, or Google Workspace. These systems use AES-256 encryption, MFA, and secure access controls. All safety and compliance documents are uploaded, categorized, and regularly audited to Maintain accuracy and regulatory readiness.

- Password-protected folders
    - Sensitive files, including incident reports, personnel training records, and insurance documentation—are stored in password-protected folders within the cloud environment. Access is restricted to authorized personnel, and strong encryption-backed passwords are used to protect all protected directories. Passwords are stored in a secure password manager and reviewed annually.
- Structured naming conventions
- Regular backups
- Access control and minimal permissions

Physical documents are scanned and stored digitally whenever appropriate.

N.1.b Confidential Records

Certain records require controlled access, including:

- Incident reports
- Substance testing records
- Medical information
- Confidential GC or client documents
- FAA investigations or enforcement correspondence

Access is restricted to the Owner/Principal and designated management personnel.

N.2 FAA Documentation Requirements

Union Drones LLC complies with all applicable FAA documentation requirements for commercial UAS operations.

N.2.a Pilot Certification & Currency Records

Records include:

- Remote Pilot Certificates
- Recurrent training proof
- TSA security vetting certification (implicit in certification)
- Training logs
- Medical limitations (if disclosed voluntarily)

Documents must be readily available upon request by FAA inspectors, law enforcement, or GC representatives.

N.2.b UAS Equipment & Maintenance Logs

Union Drones LLC maintains logs for:

- Aircraft serial numbers
- Maintenance, firmware updates, and repairs
- Battery cycles and maintenance
- Calibration history
- Equipment retirement dates

Logs support safe operation and provide traceability during investigations.

N.2.c Flight Logs & Operation Records

Flight logs include:

- Pilot name
- Flight date and duration
- Project location
- Mission type
- Weather conditions
- Notes on hazards or anomalies
- Battery usage
- Any deviations from planned operations

Flight logs must be retained for at least 12 months, longer if required by GC contracts.

N.3 Safety Records

Safety documentation supports compliance and continuous improvement.

N.3.a Incident, Accident & Near-Miss Reports

These records include:

- Completed incident or near-miss forms
- Photographs and site sketches
- GC or client reports
- Documentation of corrective actions
- FAA reports, if applicable

Retention Period: **5 years minimum**

N.3.b Training Records

Training records include:

- Safety orientation
- GC site-specific orientations
- Toolbox talks
- PPE training
- Fall protection training
- UAS-specific training (pre-flight, emergency, equipment-specific)
- Certifications and expiration dates

Retention Period: **Duration of employment + 3 years**

N.3.c JHA and Pre-Task Plans

Records include:

- Hazard identification
- Task steps
- Control measures
- Crew signatures
- Updated or revised versions

Retention Period: **Minimum 2 years**, or per GC requirement.

N.4 Project Documentation Required by GCs

GCs may require specific documentation before permitting UAS operations on site.

N.4.a Prequalification Documentation

Documentation may include:

- Safety manual
- Insurance certificates (COI)
- EMR/incident statistics (if available)
- Training and certification records
- Company licensing and registrations
- Safety history and program reviews

N.4.b Project-Specific Documentation

GCs may also require:

- Site-Specific Safety Plans (SSSPs)
- JHAs and pre-task briefings
- UAS flight plans
- Emergency procedures
- Data handling and privacy protocols
- UAS equipment lists with serial numbers

All required documents must be submitted on or before GC deadlines.

N.5 Document Retention Schedule

Retention schedules Maintain compliance with FAA, OSHA, Washington State, and GC requirements.

N.5.a Standard Retention Periods

Record Type	Minimum Retention
Flight Logs	12 months
Incident / Near-Miss Records	5 years
FAA Reports & Correspondence	Per FAA guidance
Training Records	Employment + 3 years
Maintenance Logs	Life of equipment + 2 years
JHAs / Pre-Task Plans	2 years
GC Orientation Records	Duration of project + 1 year

N.5.b Longer Retention for Legal or Contractual Needs

Union Drones LLC may retain documents longer when:

- Required by contract
- Needed for litigation defense
- Required for insurance claims
- Requested by GC or regulatory agency

Longer retention periods are determined by management.

N.6 Storage, Backup & Security Requirements

Proper document security protects sensitive data and Maintains business continuity.

N.6.a Storage Requirements

Documents must be stored:

- Digitally in secure, encrypted locations
- In organized project folders
- With logical naming conventions
- With restricted access based on role

N.6.b Backup Requirements

Digital records must be backed up:

- Automatically or manually at least weekly
- To redundant, secure storage locations
- In a manner that prevents data loss from hardware failure or cyber threats

---

N.6.c Data Security & Privacy Requirements

Union Drones LLC must:

- Protect sensitive client data
- Avoid storing unnecessary PII
- Maintain compliance with the company's data privacy policies
- Follow GC-specific confidentiality requirements
- Restrict distribution of raw and processed imagery as required

SECTION O – PROGRAM REVIEW, REVISION & CONTINUOUS IMPROVEMENT

Union Drones LLC is committed to maintaining a dynamic and effective safety program that evolves in response to operational needs, regulatory changes, industry best practices, and feedback from personnel and General Contractors (GCs). This section outlines the process for periodic review, revision, and continuous improvement of the company safety manual and associated procedures.

O.1 Annual Safety Program Review

The entire Union Drones LLC Safety Program must be reviewed **at least once per year** to Maintain it remains current, compliant, and effective.

O.1.a Review Responsibilities

The annual review will be conducted by:

- Owner/Principal
- Operations Manager
- Additional subject matter experts (as needed)
- External safety consultant (optional but recommended)

O.1.b Review Components

The review shall cover:

- Regulatory updates (FAA, OSHA, WISHA, GC requirements)
- UAS technology changes and manufacturer updates
- Internal incident and near-miss data
- Trends in construction site safety
- Feedback from GCs and clients
- Lessons learned from field operations

O.1.c Documentation of Review Findings

After each annual review, a summary must be created including:

- Date of review
- Participants
- Key findings
- Recommended changes
- Action items with assigned responsibilities

The summary must be retained as part of the company's safety records.

O.2 Revision and Update Procedures

The safety manual must be updated whenever new regulations, technologies, or lessons learned necessitate revisions.

O.2.a Revision Triggers

Revisions may be triggered by:

- FAA Part 107 rule changes
- Updates to OSHA or Washington State regulations
- Changes in GC prequalification requirements
- Introduction of new equipment or UAS models
- Significant incidents or near-misses
- Incorrect or outdated documentation discovered in the manual
- Expansion of company services

O.2.b Revision Approval Process

All revisions must be:

1. Drafted by the Owner/Principal or Operations Manager
2. Reviewed for accuracy and compliance
3. Approved by the Owner/Principal
4. Version-controlled with updated revision number and date
5. Distributed to personnel and attached to SSSPs for relevant projects

No old versions should remain in active use.

O.2.c Version Control Requirements

Each revision must:

- Update the version number (e.g., 1.0 → 1.1)
- Include a brief description of changes
- Update the “Effective Date” on the cover page
- Be logged in the revision history table (Appendix A)

This Maintains transparency and traceability.

O.3 Continuous Improvement Strategy

Union Drones LLC promotes a culture of continuous improvement driven by data, innovation, and employee input.

O.3.a Lessons Learned Integration

Lessons learned will be collected from:

- Field operations
- Incident and near-miss investigations
- GC feedback and audits
- Equipment evaluations
- Internal reviews

Useful lessons must be integrated into updated procedures and training.

O.3.b Employee Participation

Employees are encouraged to:

- Suggest improvements
- Report recurring hazards
- Identify inefficiencies
- Provide feedback on SOPs
- Participate in pilot tests of new tools or workflows

Union Drones LLC values proactive safety engagement.

O.3.c Technology & Industry Monitoring

The company will actively monitor:

- New UAS industry standards
- FAA policy updates or rulemaking
- GC expectations and bid requirements
- Technological advancements (sensors, batteries, airspace tools)
- Construction safety trends
- Lessons from industry peers

Insights gained will inform future updates.

O.4 Internal Audits & Field Verification

Internal audits verify that the documented safety program is being followed in the field.

O.4.a Audit Frequency

Audits are conducted:

- At least once per year
- After major incidents or safety concerns
- When new equipment or workflows are introduced
- Anytime a GC requests verification

O.4.b Audit Components

Audits will review:

- Compliance with flight procedures
- Proper PPE use
- Documentation accuracy
- Equipment maintenance and storage
- Adherence to GC procedures
- Training and certification currency

O.4.c Audit Reports & Corrective Actions

Audit findings must be documented and include:

- Non-conformances observed
- Root cause of deficiencies
- Corrective action assignments
- Timelines for completion
- Verification of corrective action implementation

O.5 Communication of Program Updates

Any revisions or updates must be communicated promptly to Maintain all personnel understand changes.

O.5.a Communication Methods

Updates may be communicated via:

- Email notifications
- Safety meeting announcements
- Updated digital documents
- Training refreshers
- GC-required documentation submissions

O.5.b Implementation Timeline

Updates must:

- Be implemented immediately when required by regulation
- Be implemented within a reasonable timeframe for procedural or content changes
- Not be delayed once approved by the Owner/Principal

O.6 Commitment to Continuous Improvement

Union Drones LLC recognizes that safety excellence is a moving target. This program remains adaptable, proactive, and committed to reducing risks through:

- Strong leadership
- Employee involvement
- Consistent documentation
- Proactive hazard identification
- Rigorous adherence to standards
- Open communication
- Regular program updates

Continuous improvement protects personnel, clients, property, and the long-term success of Union Drones LLC.

SECTION P – APPENDICES & SUPPORTING DOCUMENTS

The following appendices contain reference documents, templates, and tools that support the implementation and administration of the Union Drones LLC Safety Program. These materials assist personnel in consistent compliance with company policy, FAA regulations, OSHA/WISHA requirements, and General Contractor (GC) expectations.

P.1 Appendix A – Revision History

This appendix provides a formal log of all revisions to the Safety Program, ensuring transparency, version control, and traceability.

Revision Control Table

Version	Effective Date	Prepared By	Approved By	Summary of Changes
1.0	11/25/2025	James C.	James C.	Initial release of Union Drones LLC Safety Program

P.2 Appendix B – Required Training & Certification Matrix

This matrix outlines required training and documentation for all personnel performing work for Union Drones LLC.

Training Matrix Table

Training Type	Applies To	Renewal Frequency	Documentation Required
FAA Part 107 Certification	Remote Pilots	24 months	Copy of certificate
UAS Equipment Training	Pilots & VO	As equipment changes	Training log
GC Site Orientation	All field personnel	Per project	Proof of completion
Job Hazard Analysis (JHA) Training	All field personnel	Every 12 months	Signed records
PPE Training	All personnel	Every 12 months	Attendance sheet
Emergency Response Training	All personnel	Every 12 months	Training agenda
Safety Manual Review	All personnel	Annual	Acknowledgment form
First Aid/CPR (Optional/Recommended)	Designated personnel	Every 24 months	Certification card

P.3 Appendix C – Job Hazard Analysis (JHA) Template

This template is used to document tasks, associated hazards, and control measures for each project.

JOB HAZARD ANALYSIS (JHA) – UNION DRONES LLC

Project Name: **Date:**

Task/Activity: **Prepared By:**

Crew Members:

1. TASK STEPS
(List each step of the task)

2. HAZARDS
(Identify hazards for each task step)

3. CONTROLS / MITIGATIONS
(Describe mitigation methods, PPE, and procedures)

4. SIGN-OFF

- Crew reviewed hazards and controls
- All questions answered
- Work may proceed

Signatures:

P.4 Appendix D – Daily Pre-Task Briefing Form

This document supports daily hazard evaluation before flights or site activities begin.

DAILY PRE-TASK BRIEFING – UNION DRONES LLC

Date: **Project:**

Crew Present:

1. Planned Activities Today:
(Describe tasks)

2. Identified Hazards:
(List hazards such as cranes, personnel, weather, power lines, site traffic)

3. Control Measures:
(Steps to reduce or eliminate hazards)

4. Emergency Procedures:
(Evacuation routes, GC contact, flight emergency steps)

5. Flight Plan Summary (if applicable):

- Altitude
- Routes
- Takeoff/landing zone
- Exclusion zones
- VO assignments

Crew Signatures:

P.5 Appendix E – Incident / Near-Miss Report Form

Used to document events, analyze causes, and implement corrective actions.

INCIDENT / NEAR-MISS REPORT – UNION DRONES LLC

Date of Incident: **Time:**

Location: **Project:**

Reported By: **Role:**

1. Description of Incident / Near Miss:
(Provide detailed narrative)

2. Contributing Factors:
(Weather, equipment, human factors, site conditions)

3. Immediate Actions Taken:
(What was done on-site)

4. Injuries or Damage:
(Identify personnel, equipment, or property affected)

5. Corrective Actions:
(Short-term and long-term preventive measures)

6. Notifications Made:
(GC notified? FAA reporting triggered?)

Signature: _____

P.6 Appendix F – UAS Pre-Flight Checklist

A standardized checklist for safe UAS operation before takeoff.

UAS PRE-FLIGHT CHECKLIST – UNION DRONES LLC
PILOT VERIFICATION

- FAA Part 107 certificate on person
- Visual Observer (if used) briefed and ready
- Flight plan reviewed and approved

AIRCRAFT CONDITION

- Battery fully charged / healthy
- Propellers inspected
- Firmware up-to-date
- Sensors calibrated

SITE CONDITIONS

- Weather acceptable
- Wind within aircraft limits
- No TFRs or airspace restrictions
- GC advised and exclusion zone established

GO/NO-GO DECISION
Pilot in command confirms readiness:
☐ GO ☐ NO-GO

P.7 Appendix G – Emergency Procedures Quick Reference

A printable field sheet summarizing emergency responses.

Emergency Quick-Reference Sheet

LOST LINK

- Attempt reconnection
- Move toward aircraft
- Reorient antennas
- Prepare for RTH
- Notify GC if aircraft moves unexpectedly

FLYAWAY

- Track visually
- Warn personnel
- Notify GC immediately
- Document last known direction and altitude
- Begin incident report

CRASH

- Secure area
- Check for injuries
- Power down equipment
- Photograph scene
- Notify GC and FAA (if required)

P.8 Appendix H – Safety Manual Acknowledgment Form

Personnel must acknowledge receipt and understanding of the Safety Program.

SAFETY MANUAL ACKNOWLEDGMENT – UNION DRONES LLC

I acknowledge:

- I have received the Union Drones LLC Safety Program
- I understand the policies, procedures, and expectations
- I agree to follow all safety requirements
- I will ask questions if I do not understand any instructions
- I understand failure to follow safety rules may result in disciplinary action

Name: _____

Signature: _____

Date: _____