



Verification Guide for the Planning and Execution of Operations with Transport Drones

OBJECTIVE

Provide a clear and detailed structure to ensure that drone operations are carried out safely and efficiently. The first step in this planning is the definition of the mission objectives. This involves accurately determining the purpose of the operation, the type of cargo to be transported, the distance to be traveled, and the final destination. Based on this information, the most appropriate flight routes are designed, considering the topography of the terrain, the expected weather conditions and the presence of possible obstacles that may interfere with the operation.

A rigorous analysis of weather conditions is essential before executing the mission, as these can directly affect the performance and safety of the drone. Factors such as wind, rain, or temperature should be evaluated, and alternative plans should be in place in case conditions change unexpectedly. Forecasting contingencies in the event of adverse weather situations is a key element in planning.

Another fundamental part of the guide is the exhaustive review of the equipment before starting the flight. This review includes the physical inspection of the drone, checking the condition of the batteries, motors, propellers and communication systems. It is also crucial to check the correct functioning of the flight software, making sure that it is up-to-date and correctly configured. With regard to the cargo, it must be verified that it is properly fixed and balanced, and that it does not exceed the cargo capacity of the drone, to avoid stability problems during flight.

SAFETY

SAFETY IN OPERATIONS IS A CONSTANT PRIORITY. Identifying potential risks and planning mitigation measures help reduce the chance of incidents. It is equally important to have well-defined protocols in place in case of an emergency, whether due to signal loss, technical failures or any other unforeseen event. These protocols should include procedures for emergency landings in previously identified safe areas.



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PURPOSE

During the execution of the operation, **REAL-TIME MONITORING IS ESSENTIAL TO ENSURE THE SUCCESS OF THE MISSION**. Using live tracking and control systems, operators can follow the drone's trajectory and ensure that everything is working as intended. Continuous communication with all involved, including ground operators and customers, is critical to maintaining control of the operation and responding quickly to any eventuality.

At the end of the loading operation, a post-service evaluation is carried out to review the results and ensure that the objectives have been met.

INSTRUCTIONS FOR USE

1. Complete each section sequentially.
2. Check "Compliant" if the action has been completed successfully.
3. Check "Non-Compliant" if problems or non-compliances are detected.
4. Check "Not Applicable" if the action is not relevant to the specific mission.
5. For any "Non-Conforming," document the reason and corrective actions in an annex.
6. The quest should only proceed if all applicable items are marked as "Okay."
7. This list must be completed and signed by the Head of Mission before the start of the operation.

Signature of the Head of Mission

Pilot

Date:...../...../.....

**Signature of the
Responsible**

Date:...../...../.....

**Signature of the
2nd Pilot Firm**

Date:...../...../.....



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I. Initial Assessment and Risk Analysis

Action	Description	Conformable	No Conformable	No Applie
Mission Definition	Specify type, objectives, and critical parameters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preliminary risk analysis	Identify and assess potential mission risks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risk mitigation matrix	Develop strategies for each identified risk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Go/No-Go Evaluation	Determine criteria for proceeding or aborting the mission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

II. Operational and Flight Planning

Action	Description	Conformable	No Conformable	No Applie
Airspace analysis	Verify classification, restrictions, and NOTETAMs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATC Coordination	Establish communication procedures with ATC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route planning	Define primary path, alternatives, and decision points	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Obstacle Analysis	Identify and assess natural and man-made obstacles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Energy Management Plan	Calculate consumption, reserves and charging points	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weather analysis	Assess weather conditions and their impact on the mission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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III. Operational Safety Management

Action	Description	Conformable	No Conformable	No Applie
Emergency Response Plan	Develop procedures for various critical scenarios	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identification of safe zones	Locate areas for emergency landing en route	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operator fatigue analysis	Assess personnel status and mitigation measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Review of previous incidents	Analyze lessons learned from similar operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IV. Population Density Analysis

Action	Description	Conformable	No Conformable	No Applie
Population density mapping	Identify areas of high, medium and low density on the route	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Route adjustment by population	Optimize route to minimize overflight of dense areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special Event Analysis	Verify temporary population concentrations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazard mitigation plan	Develop specific strategies for each density zone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

V. Communication Networks

Action	Description	Conformable	No Conformable	No Applie
Network coverage mapping	Identify coverage zones for different technologies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Redundancy planning	Establish primary and backup systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Link Loss Protocol	Define procedures for loss of communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UTM Integration	Ensure connectivity with traffic management systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cybersecurity Plan	Implement interference protection measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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VI. Analysis of Operating Environments

Action	Description	Conformable	No Conformable	No Applie
Environment Type Identification	Classify environments (urban, rural, coastal, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analysis of specific challenges	Assess risks unique to each environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adaptation strategies	Develop specific plans for each type of environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Infrastructure Assessment	Identify resources available in each environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VII. Regulatory Compliance and Documentation

Action	Description	Conformable	No Conformable	No Applie
Verification of regulations	Ensure compliance with current regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Obtaining Authorizations	Manage permissions required for the operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
System Registration UTM	Enter Flight Plan in Drone Traffic Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mission documentation	Prepare and review all required documentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VIII. Technical Preparation of the Drone

Action	Description	Conformable	No Conformable	No Applie
Pre-flight inspection	Perform exhaustive check of the drone and systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Update	Verify and update firmware and databases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
System configuration	Adjust drone parameters according to requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Payload Verification	Ensure proper installation and payload operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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IX. Briefing and Mission Execution

Action	Description	Conformable	No Conformable	No Applie
Team briefing	Conduct a full briefing with all staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Final Verification Go/No-Go	Confirm compliance with all mission criteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Real-time monitoring	Establish ongoing monitoring procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change Manageme	Define protocols to adapt to changes during the mission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

X. Post-Mission Procedures

Action	Description	Conformable	No Conformable	No Applie
Debriefing	Perform post-flight analysis with the entire team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incident reporting	Document and analyze any abnormal events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Updating records	Complete flight and maintenance logs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mission Evaluation	Analyze compliance with objectives and lessons learned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>