

NFPA 2400 Drone Piloting Vocabulary



Introduction

This vocabulary list covers key concepts and terms that students preparing for the NFPA 2400 drone piloting certification need to know.

1. ****NFPA 2400****: A standard developed by the National Fire Protection Association (NFPA) for public safety unmanned aircraft systems (UAS).
2. ****UAS (Unmanned Aircraft System)****: The combination of an unmanned aircraft and the equipment necessary for its safe and efficient operation.
3. ****UA (Unmanned Aircraft)****: The aircraft component of a UAS, which operates without a human pilot onboard.
4. ****Ground Control Station (GCS)****: A control system, either mobile or fixed, that pilots use to remotely operate the UA.
5. ****Remote Pilot in Command (RPIC)****: The certified individual responsible for the overall operation and safety of a UAS mission.
6. ****Visual Line of Sight (VLOS)****: A regulatory requirement where the UA must be flown within the pilot's direct visual observation.
7. ****Beyond Visual Line of Sight (BVLOS)****: UAS operations conducted outside the pilot's direct line of sight, requiring special permission or technology.
8. ****First-Person View (FPV)****: A method of controlling a UA using video feedback from an onboard camera to simulate a pilot's perspective.
9. ****Airworthiness****: The status of an aircraft being fit and safe for flight under FAA or NFPA regulations.
10. ****Payload****: Any equipment or sensors carried by the UA that are not essential for flight (e.g., cameras, sensors).
11. ****Mission Planning****: The process of creating a flight strategy, including flight paths, objectives, and risk assessments.

12. ****Flight Termination System****: A safety mechanism designed to safely end a flight if necessary, typically in the case of a system failure.
13. ****Failsafe****: A system or feature designed to bring the UA to a safe state in the event of a failure.
14. ****Telemetry****: The real-time transmission of data (altitude, speed, location) from the UA to the ground control station.
15. ****Geofencing****: A virtual boundary that prevents a drone from flying into restricted areas.
16. ****Lost Link****: A condition where communication between the UAS and ground control is lost.
17. ****Emergency Landing****: The unplanned but controlled descent and landing of a UA due to unforeseen circumstances.
18. ****Flight Log****: A detailed record of flight information, such as time, location, and operator details, often required for legal or regulatory purposes.
19. ****Part 107 Certification****: An FAA certification required for commercial drone operators in the U.S.
20. ****NOTAM (Notice to Airmen)****: An alert that provides information about the safety of flying in certain airspaces due to temporary hazards.
21. ****Restricted Airspace****: Airspace where UAV operations are limited or prohibited without special authorization.
22. ****TFR (Temporary Flight Restriction)****: A temporary restriction on air traffic in a specified area for safety reasons, such as during natural disasters or large public events.
23. ****Controlled Airspace****: Airspace in which the FAA exercises control and where special permission is required to fly UAS.
24. ****Uncontrolled Airspace****: Airspace where UAS operators can fly without needing air traffic control permission, though certain rules still apply.
25. ****No-Fly Zone****: An area where UAS are not allowed to fly due to safety, security, or regulatory concerns.
26. ****Airspace Classes****: FAA-designated airspace categories (Class A through G), each with different rules for drone operations.

27. ****Flight Termination****: A pre-programmed process where the UA ceases flight, usually by landing or descending, in case of an emergency.
28. ****Operator Certificate****: Certification granted to individuals or organizations that demonstrate safe UAS operations and compliance with regulations.
29. ****Risk Assessment****: A process for evaluating potential risks to the UAS mission and identifying mitigation strategies.
30. ****Standard Operating Procedures (SOP)****: Detailed guidelines and protocols for safe and efficient UAS operations.
31. ****Operational Control****: Authority to initiate, conduct, and terminate a flight mission, typically held by the RPIC.
32. ****Incident Commander****: The individual responsible for managing emergency response efforts, potentially overseeing UAS deployment.
33. ****Hazardous Materials (HAZMAT) Monitoring****: Using drones equipped with sensors to monitor dangerous chemicals or materials during public safety missions.
34. ****Thermal Imaging****: The use of infrared cameras on UAS to detect heat signatures, useful for search and rescue or firefighting operations.
35. ****Collision Avoidance****: Systems onboard the UA that detect and avoid obstacles to prevent crashes.
36. ****Situational Awareness****: The ability of the UAS operator to be aware of all relevant factors affecting the flight and mission environment.
37. ****SAR (Search and Rescue)****: UAS operations aimed at locating and assisting people in distress, especially in hard-to-reach areas.
38. ****Pre-Flight Checklist****: A mandatory set of tasks and inspections performed before UAS takeoff to ensure safe operation.
39. ****Post-Flight Inspection****: An inspection conducted after landing to check for any damage or malfunctions in the UAS.
40. ****Command and Control Link (C2 Link)****: The communication link between the UAS and the ground control station, ensuring control of the UA.
41. ****Redundancy****: The inclusion of backup systems to enhance the safety and reliability of UAS operations.

- 42. ****Air Traffic Control (ATC)****: A service that manages air traffic, especially relevant for UAS operations near airports or controlled airspace.
- 43. ****Return-to-Home (RTH)****: An automated feature that directs the UA to return to a pre-set home location in case of lost connection or low battery.
- 44. ****Battery Management****: The practice of monitoring and maintaining UAS battery health to ensure safe flight operations.
- 45. ****UAS Launch and Recovery****: The methods and procedures used to safely launch and land a UAS.
- 46. ****Data Retention Policy****: Guidelines for how long UAS flight data and video recordings should be stored for public safety missions.
- 47. ****Weather Minimums****: Environmental conditions under which it is safe to operate a UAS, typically regarding visibility and wind limits.
- 48. ****Incident Reporting****: The formal process of documenting any accidents or issues encountered during UAS operations.
- 49. ****Training Program****: A structured curriculum designed to ensure operators are proficient in UAS operation and safety.
- 50. ****UAS Maintenance****: Regular inspection and repair practices that ensure UAS remains in good operating condition.