BVLOS Drone Operation – Key Points for MARVEL AIR Batch Students

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Before Flying BVLOS (Beyond Visual Line of Sight):

- **Create and Submit SOPs** (Standard Operating Procedures) to DGCA:
    - One for how you will fly BVLOS.
    - One for how you'll communicate with Air Traffic Control (ATC) and Indian Air Force (IAF), especially if your drone loses connection.
- **Security Clearances:**
    - All people and companies involved (if private) need clearance from the Ministry of Home Affairs (MHA).
- **Flight Height Rules:**
    - Max allowed: **400 feet (AGL - Above Ground Level)**.
    - If you want to fly higher, take special permission from AAI (Airports Authority of India).
- **Energy Reserve:**
    - Drones must have **at least 15% battery/fuel left** when finishing a mission for emergency returns.
- **Risk Assessment:**
    - Before flying, conduct a **Hazard Identification and Risk Management (HIRM)** workshop with all team members.
    - You can fly only after reducing risks to an acceptable level.
- **Pilot Qualifications:**
    - Drone pilots must have **valid certificates** and **good flight experience** (especially safe VLOS flying history).
- **Ministry & Local Approvals:**
    - Need permissions from **Ministry of Defence (MoD)** and **local administration** before starting trials.

During BVLOS Flight Operations:

- **Single Point Coordinator (SPC):**
    - Appoint one person at ATC office to manage communication during all flights.
- **Flight Plans:**
    - File a **Flight Plan** before each flight.
    - Get a **Flight Information Centre (FIC)** number and **Air Defence Clearance (ADC)** number.
- **NOTAM (Notice to Airmen):**
    - Issue a NOTAM to inform other airspace users about your flight.
- **Daytime Only:**
    - Fly only **between sunrise and sunset**.
    - **Good weather (VMC)** must be present at launch and landing.

Drone Requirements for BVLOS:

- Drone must be:
    - **Micro or Small Category** (rotary wing preferred).
    - Have a **valid Drone Acknowledgement Number (DAN)**.
    - Good endurance (battery life) for long flights.
    - Weather-resistant (able to handle wind/rain within limits).
    - **Real-time transmission of drone ID and live position**.
    - Must have a **barometric sensor** for accurate altitude.
    - Must have **geo-fencing, Return to Home (RTH)**, and **Automatic Flight Termination** capability.
    - **Autonomous flight** (should be able to fly mission routes automatically).