

Off-Grid Ops Mode - Atmospheric Filtration Drone Swarm

This protocol defines how to run the atmospheric filtration drone swarm in fully off-grid scenarios: natural disasters, comms blackouts, or intentional airspace isolation. It ensures autonomous functionality without external infrastructure.

Minimum Required Hardware

- Precharged drone fleet (solar + Li-ion)
- Portable mesh network node / backup Starlink dish
- Rugged DAO terminal (tablet or laptop with DAO node installed)
- Solar-powered battery swap station or mobile generator

Autonomous Logic Stack (Offline)

- Last-known DAO config cached onboard each drone
- Emergency mission profiles encoded (loop, sweep, retreat)
- Local swarm coordination via direct RF + beacon mesh
- Sensor prioritization switches to PM2.5 + CO2 + thermal

Data Logging & Sync

- Logs encrypted locally on SSD or USB key
- Sync node auto-broadcasts on return to range
- Manual backup to IPFS if DAO unreachable >24h

Emergency Containment Procedures

- Drones auto-land on triple fault (comms + GPS + battery low)
- Visible beacon & tone emitter activates after 5 mins stationary
- Manual override QR panel under each drone body
- No-fly perimeter enforcement via hardcoded zones