

CHAPTER 4

SURVIVABILITY

Effective mission planning is critical to the UAV system's survivability. Good mission planning considers the level of threat and the best time, location, and altitude to fly, to increase the chance of survival. Factors such as weather, the UAV system's operational capabilities, and airspace management are also critical to the survival of the UAV. UAVs have a much smaller signature—infrared, radar, audio, electronic, and visual—than conventional manned aircraft; therefore, the likelihood of detection is reduced. UAVs are not hardened and have a very limited maneuver capability. They can easily be damaged or destroyed by weapons strikes. All major system components have a redundant back-up which will greatly enhance survivability.

OPERATIONAL SECURITY

Audio, electronic, and visual signatures of ground components that support UAV operations (such as generators and radios), are vulnerable to enemy detection and exploitation. This vulnerability increases as the size of the unit or the amount of electronic emission-producing equipment increases. Standard OPSEC measures, such as camouflage, concealment, dispersion, and minimizing electronic emissions, will greatly enhance survivability.

When operations require the GDT or UAV to operate as emitters, their signals are susceptible to enemy detection, interception, and jamming. Autonomous or programmed flight modes reduce the amount of emissions, and consequently increase both UAV and ground station survivability.

PHYSICAL SECURITY

Physical security for a UAV unit depends on the deploying scenario and METT-T. Under normal circumstances, when deployed within an established perimeter, no additional physical security requirements exist. When deployed independently, or outside an established perimeter, the UAV commander coordinates with the supported unit to provide physical security. UAVs only require special security precautions (COMSEC security procedures) when a SIGINT payload is part of the mission.

FORCE PROTECTION

Force protection is a primary intelligence task. It identifies those elements of your force most vulnerable to detection and attack by the enemy. Friendly intelligence operations, counterintelligence (CI) in particular, identify, locate, and target an enemy's ability to target and affect friendly forces, facilities, and operations.

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While UAV units play a role in the intelligence support to force protection, they also use force protection intelligence to—

- Decide which countermeasures to use to shield their mission intentions.
- Decide how best to protect their ground systems and AV from detection and attack.
- Plan for passive and active OPSEC and deception measures.