

Thank you for providing the ConOps. I'll now generate the first step of the STPA method, listing the Losses, System-level Hazards, and System-level Constraints for the Remotely Piloted Aircraft System (RPAS).

## **Losses**

1. **L-1: Loss of life or injury to people**
2. **L-2: Loss of or damage to the RPA**
3. **L-3: Loss of or damage to property or infrastructure**
4. **L-4: Unintentional release or leak of sensitive information**
5. **L-5: Loss of mission, such as failure to perform surveillance, precision agriculture, or disaster response**

## **System-level Hazards**

1. **H-1: RPA collides with manned aircraft or other RPAs [L-1, L-2, L-3]**
2. **H-2: RPA loses communication link with the Remote Pilot Station (RPS) [L-1, L-2, L-3, L-4, L-5]**
3. **H-3: RPA experiences a critical failure of onboard systems [L-1, L-2, L-3, L-5]**
4. **H-4: RPA violates operational airspace boundaries [L-1, L-2, L-3, L-5]**
5. **H-5: Unauthorized access or data breach occurs [L-4, L-5]**
6. **H-6: RPA's payload malfunctions or is improperly deployed [L-2, L-3, L-5]**
7. **H-7: RPA is unable to perform the designated mission [L-5]**

## **System-level Constraints**

1. **SC-1: RPA must maintain safe separation from manned aircraft and other RPAs at all times [H-1]**
2. **SC-2: The communication link between RPA and RPS must remain secure and uninterrupted [H-2]**
3. **SC-3: Onboard systems must have redundancy to prevent critical failures during operation [H-3]**
4. **SC-4: RPA must operate within designated airspace boundaries [H-4]**
5. **SC-5: Sensitive data transmitted by RPA must be encrypted and access-controlled [H-5]**
6. **SC-6: Payload systems must be thoroughly tested and verified before deployment [H-6]**
7. **SC-7: If the RPA is unable to perform the designated mission, it must return to base or follow a predefined contingency plan [H-7]**

I hope this analysis aligns well with the provided ConOps for the RPAS. If you need further details or modifications, please let me know!