

HOW RISK ACCUMULATES

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What is Risk Accumulation?

The combination of risks over a mission lifecycle results in ***RISK ACCUMULATION***

- Risks are realized during different phases of the project cycle
- Risks can be mitigated, watched, or accepted

.....But they don't go away, they accumulate

Where Risk Accumulates

In various aspects of a project

- Safety
- Technical
- Schedule

In all projects, not just complex or large scale

NGSP

Risks

- Safety - First flight of bulbous Black Brant motor
- Technical - First flight of Ku band antenna, new ACS software

Accumulation effects

- Extra testing of subsystems
- Multiple dress rehearsals



ORS-1

Risks

- Safety – Vehicle fairing modification
- Technical – Battery malfunction, commercial power failure
- Schedule – conflict with TacSat-4

Accumulation effects

- Schedule delays
- Additional testing
- Replacing flight hardware



TC-4 (Tropical Composition, Cloud and Climate Coupling)

Risks

- Safety – Flying over National Park land
- Technical – Single site survey, airstrip chosen by external entity
- Schedule – Syncing satellite passes and other aircraft

Accumulation effects

- Agreed upon operational plan had to be changed real-time



UAV Tech Project



Risks

- Safety – over flight of Wallops Island, intruding boats/aircraft, duck hunters, proximity of launch pads
- Technical – payload integration, limited resources
- Schedule – higher priority missions, setup time, weather

Accumulation effects

- Closing the Island, schedule delays (weekend-only flights), additional resources required

ATREX

Risks

- Safety – surveillance, work hour limits, wind weighting
- Technical – GPS interference, ACS and rail alignment
- Schedule – airspace clearances, weather

Accumulation effects

- Launch attempt scrubs, delays



Managing Risk Accumulation

Don't

- Ignore
- Downplay
- Make decisions alone

Do

- Plan
- Review
- Revisit
- Test
- Practice

“Risk is like fire: If controlled it will help you; if uncontrolled it will rise up and destroy you.”
– Theodore Roosevelt