

Launch Data Submission
New Mexico Space Grant Consortium

University/Institution

Team Members

Date

User notes

- This readiness tool is the last step before flight. There will be a final report due at a later date, but we want to know the following final analysis:
 - Mission Overview
 - Subsystem Requirements
- In this exercise, you must report your flight results!

Mission Overview

- What is your objective?
- What do you expect to prove, discover, or learn from your experiment?
- Brief overview of underlying science/theory
- What other related research/experimentation has been done in the past?
 - Results?
- Mission Requirements
- ****Note: This is a more refined rendition of the previous FRR slides.**

Subsystem Requirements

- What subsystems do you have: power, C&DH, thermal, etc.
- What requirements do you have for each subsystem.
- What requirements do each subsystem impose on each other.
 - You should have quantifiable requirements in this section.
 - Power subsystem shall supply 2W to...
 - Power subsystem shall remain at or above 72 F at all times during the flight.
- Which requirements are design drivers?

Block Diagrams

- Block Diagrams of each of the major subsystems shall be included.
 - Use these as visual queues to explain the connections between subsystems
 - Don't skimp on details... if there is a power switch or a g-switch, make sure that it is included
- This is where you explain the design of you system and how it operates.

Schematic/Drawings/Analysis

- This section is reserved for electrical schematic and mechanical drawings.
 - These show the reviewers that you have taken the design to the next level and understand the physical dimensions of the system as well as the electrical characteristics
- Any analysis that has been completed so far shall also be contained in this section.
 - Computer models
 - Any component tests or research that may have been completed

Commands and Sensors

- This section contains charts that show the flow of data and commands.
 - What states can your payload be in?
 - Active, Active/Safe, Idle... etc.
- The key items that we are looking for are data flow diagrams and budgets
 - Memory budgets
 - How many samples, how long, do you have enough memory?
 - Where is data stored?
 - How does the data get there?
 - What commands queue data acquisition?
- General software flow chart for “main” code
- Be sure to include sensor specifications
 - Will they meet your need?

Test Plans

- What type of testing can be performed on your payload pre-flight?
- What is required to complete testing?:
 - Support Hardware
 - Purchase/produce?
 - Software
 - Purchase/in-house?
- Potential points of failure
- Testing/Troubleshooting/Modifications/Re-Testing Schedule

Parts List

- MAJOR Components lists
 - Not at the nut and bolt level... just major hardware that will be purchased or built in house
 - Lead times (This can make or break a project)
 - Distributors
 - Manufacturers
 - Cost (Don't forget to consider shipping and tax)

Spaceloft XL Payload Canister User Guide Compliance

- Mass, Volume
 - Estimated fraction of allotment vs. assigned fraction
- Payload activation?
 - What have you planned for?
 - How does it comply with Wallops “no volt” requirement
- Rocket Interface
 - Shorting wires

Shared Can Logistics Plan

Update us since FRR
If not a shared can, just leave out

- Institutions/Universities in can
- Plan for collaboration on interfacing
 - Know relative locations in can
 - Especially important for payloads needing ports
- Structural interfacing to each other
 - To the top and bottom bulkheads

Management

- Updated Organizational Chart
- Updated Schedule
- Updated mass/monetary budgets

Protocol & Testing

- What protocol will you be using to test your materials?
 - How will you go about testing your materials?
- What test procedures will you utilize?
 - How will you carry out the protocol?
- How will you analyze your results?

NOTE: **Final data** is the driving element of d LDS.

Protocol & Testing

- Pictures of Protocol
 - Power on system test (POST) visual
 - Full system integration visual
 - Video of POST

Protocol & Testing

- Bench Test Results
- Changes since original design
 - Why changes were necessary?
- Vibration testing results
 - Please include the documentation that vibration testing had been accomplished on protocol. **(Very Important)**

Results

- Explain what your data results are
 - Provide graphs, etc

Conclusions

- What does your data imply about your instruments
 - Make several inferences

Conclusions

- Issues and concerns
- Closing remarks