

NASA Student Launch Action Item List - PDR

2017- 2018

Entity Information

Engineering Technology Academy

Action Items

Summary - It was evident to the review panel that the team's work has not adequately progressed between the Proposal and Preliminary Design Review milestones. The team was informed that unless sufficient development of design occurs and appropriate documentation is submitted for the below action items as well as the CDR milestone, the team will not be permitted to continue in this year's Student Launch. Several observations and action items are outlined below.

Upon receipt of the action items below, the NASA Review Panel will evaluate the submissions and may request further information based on said submissions.

Observations:

1. The PDR report is severely lacking detail regarding most aspects of both the vehicle and payload. It is critical that the review panel clearly understand all aspects of the team's design so that it can be evaluated in regards to safety.
2. Although the PDR report appeared to be a minimally edited version of the original proposal, the submitted PDR presentation contained valuable information on the vehicle and payload that was not contained in the report. Instead of reusing parts of the proposal, the team should create a fresh document for each milestone (PDR, CDR, FRR, and PLAR). The team should follow the outline and guidelines for these documents provided in the Student Launch Handbook (pages 16-30). Every bullet in the CDR section of the handbook should be thoroughly addressed in the team's CDR submissions.

Action items due Wednesday, December 6th:

1. The predicted mass, which is paramount to predicting the ability of the chosen motor to safely launch the rocket, seems potentially underestimated. Please provide a detailed and accurate mass budget for your vehicle/payload as it will sit on the pad. (i.e. the list of ALL components and materials with their weights and a grand total)
2. Provide a flight simulation profile (Rocksim or Openrocket). The profile should cover the entire flight from launch to landing.
3. Provide a complete Rocksim or Openrocket diagram of your rocket. The report did not include a proper diagram and the one included in the presentation did not contain a motor. The motor should be included so an accurate mass, Center of Gravity, and Stability Margin can be modeled, all of which are vitally important to designing a safe rocket.
4. Calculate and provide predicted descent velocities under drogue and under main parachutes. Also provide a predicted total descent time and explain methods for calculating the provided descent and time values.