

# FNL CRITICAL DESIGN REPORT QUESTIONNAIRE

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As you might have guessed, NASA has procedures and reporting requirements are similar to what we are asking of the FNL teams. The CDR will consist of another 2-3 pages that act as an update to your PDR. The CDR is designed to narrow the preliminary report ideas into your critical design. In other words, we need to know (with the exception of minor design changes just before launch) what rocket, motor you will be launching. I have provided some information below to help guide you as you create your CDR. Good luck teams and, as always, let us know how we can help your team be successful!

Please check the calendar on the website for due dates: [www.uwgb.edu/wsgc/fnl](http://www.uwgb.edu/wsgc/fnl)  
Please submit the CDR as an attachment to [wsgc@uwgb.edu](mailto:wsgc@uwgb.edu).

1. Tell us all about your **rocket**. What are your rocket's diameter, length, weight with the motor, and weight without the motor? What size drogue and main parachutes will you be using? Will it land your rocket safely? Are you using pistons or wadding? Are you planning on using small or large rail buttons? Are you planning on using rail guides? What kind of nose cone are you using? (ogive, conical, round, etc.) How many fins does your rocket have? What are the fin shapes? (triangular, elliptical, trapezoidal, etc.) What kinds of materials are you going to use for the airframe, nosecone, and fins?
2. What size **motor** will your rocket need? (This is an important question because we want to order your motor ahead of time to make sure you have it for launch day!) Have you done any RockSim9 simulations with the motor? If so, what are your predicted results? (We know that your predicted results may change from what is submitted in this report. )
3. Tell us about your **parachutes**. What size is your drogue parachute? What size is your main parachute? When will they deploy? How many gores are used for each? What is the parachute's material? Are you taking extra precautions to keep them from being singed and burned upon deployment? (This is important if you are using silk parachutes.)
4. Are you planning on using an **audible alarm** or other rocket **tracking device**? If you are using these devices, how will they be armed? Who is the person on your recovery team that will be responsible for operating the tracking device to ensure the rocket is recovered? Has your team practiced recovery and used the device to ensure it works?
5. What will your **pre-launch checklist** look like? Who is responsible for the following items?
  - a) science payload
  - b) drogue parachute system
  - c) main parachute system
  - d) arming and programming the altimeters
  - e) launch team members
  - f) recovery team membersIf your team creates a pre-launch checklist, please include it with the CDR.