# *From time to time unforeseen challenges or opportunities can affect the planned budget, timeline, or overall goals of a project funded by the Student Sustainability Committee. Past examples of these situations include projects coming in under budget but having additional opportunities available, or inclement weather delaying the planting of agriculture projects.*

# *Below please include a brief project summary and your requested changes. Attach additional documents as needed. If you have any questions, please contact the Student Sustainability Committee at sustainability-committee@illinois.edu.*

# General Information

**Project Name:** Student Space Systems Liquid V1 Rocket Engine

**Total Amount Requested from SSC:** $12,000

# Contact Information

Applicant Name: Matt Hetzler

Unit/Department: Student Space Systems/Director of Propulsion

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# Project Information

Please provide a brief background of the project, the goals, and the desired outcomes:

The goal of this project is to design, build, and test a prototype liquid engine originally

intended to burn natural gas and liquid oxygen fuels. This engine will produce 1000lbf of thrust

on average and incorporate several first iteration technologies such as film cooling and motor

control; it will serve as a testbed to practice operating high pressure fluid systems and

monitoring engine health. Its operation will also inform our design of future engines.

Please provide a brief summary of how students will be involved in the project’s changes:

There will be about 30 members involved in this project over the course of the few months. Their contributions will include the final design and analysis of engine components,

manufacturing and assembly of the engine, testing and integration of the engine, and writing

technical reports on the design, manufacturing, and testing processes of the engine.

Please provide a brief summary of your requested scope change. How is your request different from your original plan?

Our original plan had all manufacturing done by January 2018, but delays in our project have pushed our timeline back slightly. As of now, we expect to hold a final design review for the project by Nov. 17, after which we will send the job to the manufacturers. Recently, the manufacturers we intend to use, GPI Prototype Inc. and Extrude Hone, have quoted us lead times of several weeks. As we can only make payments to these companies once the parts have been built, we are requesting that the deadline to use our awarded $12,000 be extended to June 2018. This will ensure that we have funds available with which we can purchase the nozzle and injector of our engine.

The request to change scope does not affect the goals of the development of the liquid rocket engine. Rather, it gives us the assurance we need to move forward with manufacturing our job given quoted lead times

Additional comments

N/A