ABSTRACT

TITLE:	Mobile Hazmat Emergency Facility
AUTHOR(S):	Klaseen, Ethan; Aguirre-Winter, Emily; Roybal, Joshua; Begaye, Galveston ; Smoke, Carly
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ABSTRACT: S2 Engineering is a senior design team in the Department of Physics and Engineering designing an emergency facility for hazardous material exposure. The objective of this project is to design and build an ANSI Z358.1 certified onsite safety shower to handle emergency personnel exposure of toxic propellants. This project has been specifically sponsored by Advanced Mobile Propulsion Test (AMPT), a local aerospace company. This project grants the team the opportunity to demonstrate mastery of the wide range of skills attained while completing the undergraduate program at FLC. These skills include but are not limited to fluid mechanics, heat transfer, thermodynamics, pumping technology, hazardous chemicals, general construction, electrical and flow meter analysis. Developments from this project can be used by future students as a platform from which they can gain experience in fluid analysis, thermal processes, Hazmat safety requirements, and networking with industry personnel. The end result of the project is to demonstrate ANSI certification of both shower and eyewash with flow rates of 20 GPM and 0.4 GPM, respectively. The purpose of the project was to design and build an emergency shower that will be used by AMPT when traveling to testing sites. The shower must be able to be portable, cost effective, ANSI certified, and be quickly operatable once onsite. Also, the unit must not be considered an oversized load.