Regarding Lithium Batteries

This document is intended as a clarification NOT a replacement for the current School of Engineering Safety Policies.

The School of Engineering Safety committee has deemed that lithium batteries may not be built into student projects in the Design Lab’s shop. This includes ANY battery where “lithium” is part of its chemistry. The primary reason for this is simple – if the lithium battery catches fire we will be **UNABLE** to put it out with the existing fire suppression systems.

There are clarifications to this. Cell phones, tablets, music players and laptops, for example may include a lithium battery. These may be used as part of a student project as long as the power supply system is NOT modified. Any use where the power out of or into a lithium battery is modified or any connections are made directly to the battery are not permitted. It is generally permitted to use a student designed product to charge the cells in these devices because the device manufacturer has incorporated the appropriate safety circuits inside the device to prevent over heating while charging.

Students still routinely request permission to incorporate lithium under the impression that that cannot complete their IED project without them. The requirements of a typical design project include dealing with engineering design constraints –in this case avoiding the use of lithium batteries. Thus any design which *requires* the use of lithium cells actually *violates* the course requirements and thus needs to be altered.

The goal of the IED projects is to develop a prototype using the engineering design process to design / build / test a device. The projects are not intended to be a final consumer ready project, only a proof of concept prototype. As a result it is valid and fair for a team to state that the current design for the course uses other rechargeable battery technology but a final consumer product would most likely use a lithium based battery. The team’s report should then details the reasoning and engineering design differences between the two.

Many alternate battery choices are available including non-rechargeable ones. Depending on the power requirements, nickel metal hydride cells of various sizes may be used. Sealed “gel-cells” are a very common battery choice for IED projects where higher power is required.

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