In-Water Refueling Station For UUV's

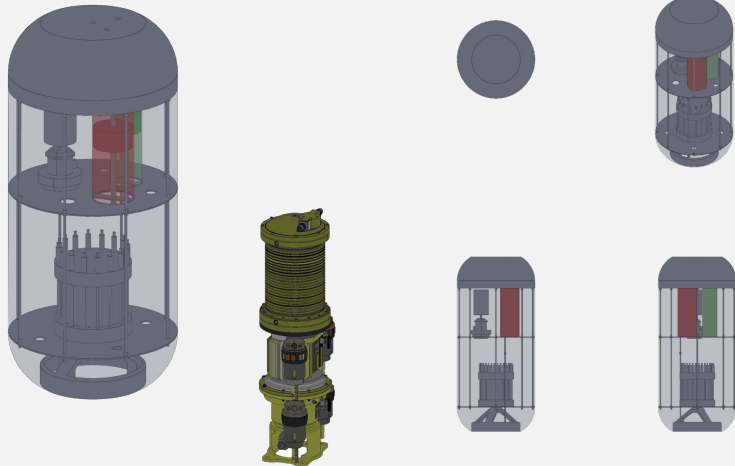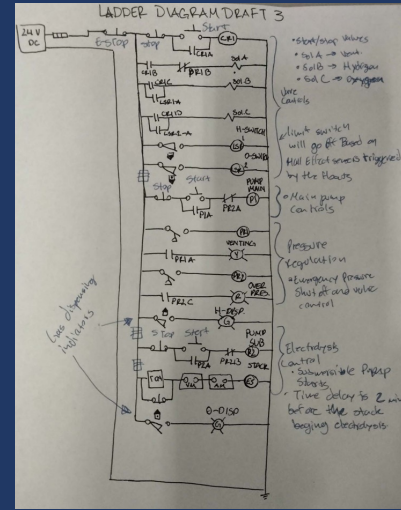Benjamin Wilcox, Norman Gonzalez, Kausha Mohottige

Introduction:

An In-Water Refueling Station will facilitate the refueling process for unmanned vehicles saving time and manpower by utilizing an electrolysis stack to separate deionized, desalinated, water into hydrogen and oxygen gasses.
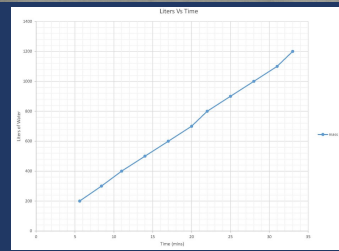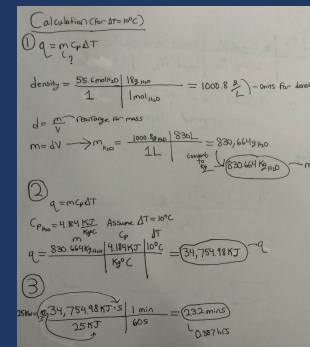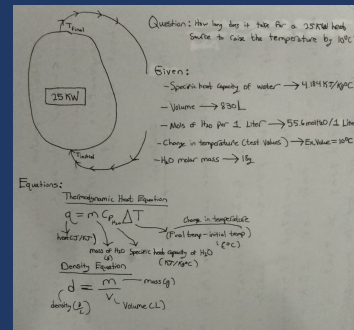
Our Objective:

The focus of our research involved finding solutions for dealing with the excess heat generated by the electrolysis stack and developing a ladder logic control schematic for automatic production.

Our Work:

Results:

We did not reach a prototyping stage within the timeframe from the internship. Consequently, we were not able to carry out our theoretical solutions in the real world. We did identify a vendor for the Programmable Logic Controller that will be used to control the machine and we established contact with the company to collaborate as the project develops.

Schneider Electric

Future Work:

- Revised ladder logic control diagram
- Accurate thermos diagram to account for water flow
- Commercial applications

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