Super Battery

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EXECUTIVE SUMMARY

This report is designed to outline the steps necessary to design a plant to make the materials for the super batteries as well as economics, safety, and environmental issues. The project was broken up into the battery cathode, anode, components, and then all supporting economics, marketing, safety, and environmental issues. The main aspect and novel idea of this project was the cathode synthesis. The iron (VI) salt that allows the super-battery to achieve a 50% energy advantage over current alkaline batteries has been previously unutilized because it was believed to be highly unstable. However, in recent years, researchers have found that this compound can be stable for several years. The benefits from using a cathode including an iron (VI) compound can lead to a much longer lasting, more energy efficient, and environmentally friendly battery. All safety and environmental regulations were understood and followed when considering design of this process. As seen below, the project is profitable. The new super iron batteries will be both more energy efficient and environmentally friendly as well as cost competitive.

The final conclusions of the project are:

Capacity:	50,000 batteries / week
Plant Location:	Charlotte, NC
Market:	San Francisco, CA
Total Capital Investment:	$472,000
Net Present Worth:	$2.7 million
Return of Investment:	78%
Pay out time:	1 year and 3 months.