Introduction

Disposal of nuclear waste is a problem that all Americans must share. At one point during a person's life they are responsible for producing some sort of nuclear waste, whether it is through an x-ray or from a nuclear power plant that provides electricity to our homes. There are three types of nuclear waste: high-level, low-level, and transuranic. Most high-level nuclear waste comes from the spent fuel, irradiated commercial reactor fuel, used at nuclear power plants and in defense activities. Low-level waste comes from commercial nuclear power plants, hospitals, and academic institutions. Transuranic waste is physically similar to low-level waste but it has a longer half-life; therefore it requires geologic disposal like high-level nuclear waste. Transuranic waste is generated mostly form defense activities. Ever since the first nuclear weapon was built in the 1940's, safe disposal has been a serious concern. The federal government is responsible for the safe disposal of high-level nuclear waste in the United States. For the last two decades, the government has taken steps for the design of the nation's first geologic repository for high-level waste at Yucca Mountain, Nevada, as well as investigating a site for a second high-level waste facility.

During these decades, there have been intense public criticisms, doubts, and opposition, which continue today. The first high level nuclear waste facility will be located at Yucca Mountain located 90 miles northwest of Las Vegas, Nevada. Yucca Mountain is scheduled to begin accepting waste as soon as 2007. Some people think this will be the only repository needed for the United States' high-level nuclear waste while

others think this repository will not be large enough and more repositories will be needed, which provides the motivation for this report.

This report was written to inform our community of the possibility that Wisconsin could be considered a location for a second high-level nuclear waste repository site. This analysis provides the reader with pros and cons for such a facility in the Wolf River Batholith of northern Wisconsin. Whether or not Wisconsin is a feasible location for a high-level nuclear waste repository is left for the reader to decide.