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Yucca Mountain Project Summary

Yucca Mountain is a proposed nuclear waste management site that has been studied and observed as one of the prime locations for nuclear waste disposal. Located in the Nevada Desert, Yucca Mountain offers an ideal geologic profile for the storage of nuclear waste. The mountain was created by volcanic eruptions that left layers of tuff to form a mountain outcrop. The geochemical properties of Tuff make this mountain desirable, since the Tuff will isolate the waste caverns from water. The local rainfall at Yucca Mountain is only 7.5 inches a year and of that water, only 5% actual makes it into the ground and water table. Vegetation and water runoffs account for the transportation of the rest of the water. Since nuclear waste is proposed to be stored there, it is significant that Yucca Mountain receives very little rainfall to decrease the potential for water based deterioration of nuclear waste canisters which would in turn transport radioactive material into harmful areas. Because the waste will take 10,000 years to decay, the issue of seepage and transport due to water has become the main concern of engineers. Las Vegas and other inhabited areas could be at risk of hazardous, radioactive water if a failure in design occurred. To prevent such an occurrence, specially designed canisters made out of two main components; alloy 22 and 316NG stainless steel. Using several different barriers in function with each other, the risk of seepage is drastically decreased. The stainless steel barrier prevents radiation from leaving the waste while the alloy 22 prevents corrosion of the canister from water, friction, and the waste itself. With planning and legal procedures still in progress, the facility is planned to be utilized in 2017.