

January 24, 2000

Draft Environmental Impact Statement
for a Geologic Repository for the
Disposal of Spent Nuclear Fuel and
High-Level Radioactive Waste

EIS001077

1 After reviewing the Draft Environmental Impact Statement (DEIS), it is evident that the program of constructing, operating, monitoring and eventually closing this geologic repository for nuclear fuel and high-level radioactive waste at Yucca Mountain, Nevada, technically demonstrates sound engineering .

2 ... It would be advantageous during the 50 years when the repository is classified as a Material Retrievable Storage (MRS) facility, the United States Government would reconsider the deferred indefinite recycling of spent nuclear fuel imposed by President Carter. This action effectively ended nuclear recycling in the United States, even though such recycling reduces the volume and radio toxicity of nuclear waste and could extend nuclear fuel supplies for thousands of years.

Other nations assessed the risks of proliferation differently, and the majority did not follow the United States example. France and the United Kingdom currently reprocess spent fuel, and Russia is stockpiling fuel and separated plutonium for jump starting future Fast Reactors fuel cycles. Japan has begun using recycled uranium and plutonium mixed oxide (MOX) fuel in their reactors, and recently approved the construction of a new nuclear plant to use 100% MOX fuel by 2007.

Burying spent fuel without extracting its plutonium through reprocessing would increase the long term risk of nuclear proliferation. The decay of less fissile and more radioactive isotopes in spent fuel after one to three centuries improves the explosive qualities of the plutonium it contains, making it more attractive for weapons use. In addition to extending uranium resources almost indefinitely, recycling would make it possible to convert useful energy while reducing it to short level non-fissionable, non-threading nuclear waste.

3 ... Among sources of electric-power generation, coal is the worst environmental offender. Pollutants from coal-burning cause about 15,000 premature deaths annually in the United States. Coal-burning facilities waste is either dispersed directly into the air or is solidified and dumped; some is even mixed into construction materials. Beside emitting noxious chemicals in the form of gases or toxic particles; sulfur and nitrogen oxides, arsenic, mercury, cadmium, selenium, lead, boron, chromium, copper, fluorine, molybdenum, nickel, vanadium, zinc, carbon monoxide and dioxides and other green house gases-coal fired power plants are also the world's major source of radioactive releases into the environment.

A 1,000 megawatt electric (Mwe) coal fired power plant releases about 100 times as much radioactivity into the environment than a comparable nuclear plant. In the United States alone coal burning generation plants produce about 37,300 tonnes (metric tons) of uranium and thorium.

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A 1,000 Mwe natural gas plant releases 5.5 tonnes of sulfur oxides per day, 21 tonnes of nitrogen oxides, 1.6 tonnes of carbon monoxide, and 0.9 tonnes of particulate.

One tonne of nuclear fuel produces energy equivalent to 2 to 3 million tonnes of fossil fuel. 1 kg of uranium fuel in a modern light water reactor generates 400,000 KWh of electricity, and if that uranium is recycled, 1 kg can generate more the 7,000,000 KWh of electricity.

A nuclear plant releases no noxious gases or other pollutant and much less radioactivity per capita than is encountered from airline travel, a smoke detector, or a television set.

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Recycling spent fuel to provide an environmentally safe and clean power source for the United States must start with the Yucca Mountain Repository. Nuclear power for the future energy source is affordable, practical, and a significant source of energy for the future.