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Safely Managing Used Nuclear Fuel

- There are several myths and misconceptions about the nuclear industry's management of used fuel.
- First, many people believe there is a large amount of used nuclear fuel. Actually, there is a relatively small volume of used fuel from 50 years of U.S. electricity production. All of the commercial used fuel rods in storage today could be stacked on a football field only 7 yards deep. Storage of used nuclear fuel has not had an impact on public health or the environment.
- One of the biggest myths about our industry is that we do not have a plan for this small volume of used nuclear fuel.
 1. Today, used nuclear fuel is stored safely and securely at plant sites in compliance with Nuclear Regulatory Commission regulations. By law, the federal government is responsible for moving this material from nuclear plant sites for disposal or recycling.
 2. Used fuel pellets are encased in alloy rods as a solid material, which is monitored and managed effectively at each nuclear plant site.
- The original plan for underground disposal of partially used fuel from commercial and U.S. Navy reactors at a specially designed repository at Yucca Mountain, Nev., remains viable and scientifically justified. A parallel and complementary path features the development of advanced fuel recycling technologies. The U.S. government has announced a program to reprocess used nuclear fuel for additional electricity generation and to reduce the amount of nuclear waste. This program involves three stages:
 1. Consolidated interim storage of used nuclear fuel at volunteer sites until reprocessing technology or permanent disposal at Yucca Mountain—or both—are available.
 2. Research and development, demonstration, and commercial deployment of advanced technologies to reprocess and recycle used fuel.
 3. The construction of a permanent used nuclear fuel disposal facility at Yucca Mountain for disposal and monitoring of the significantly reduced residual byproducts of advanced fuel reprocessing. The Yucca Mountain facility would remain open and closely monitored by scientists for 100 to 300 years.
- Long-term geologic disposal of nuclear materials was identified more than 50 years ago, and the international consensus among scientists is that a geologic repository is the preferred approach.
 1. The National Academy of Sciences recently reaffirmed that underground disposal is the preferred used fuel management option.
 2. After more than 30 years and \$9 billion of scientific study, Congress in 2002 approved Yucca Mountain as the proposed site of the U.S. repository.
 3. The Department of Energy plans to submit a license application to the NRC in 2008 to build the repository.
 4. Consumers of electricity have contributed nearly \$29 billion since 1983 to pay for this federal disposal facility.



SUITE 400
1776 I STREET, NW
WASHINGTON, DC
20006-3708
202.739.8000
www.nei.org