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## Safely Transporting Used Nuclear Fuel

- Used nuclear fuel has been transported safely for more than 40 years, with more than 3,000 commercial and 800 U.S. Navy shipments across 1.7 million miles of rail or highway.
  1. Solid fuel rods are packaged in airtight, specially designed containers.
  2. Used fuel rods cannot explode or burn, even if engulfed in fire.
  3. This material is shipped only along specified highway and rail routes. Each shipment will be tracked and have an escort, and state officials are notified in advance of shipments.
  
- Transportation accidents can happen. That's why an integrated safety system was developed that protects cargo at every step.
  1. Since 1970, fuel containers have been involved in just nine accidents. Four of these involved empty containers, and none resulted in a breach of the container or any release of radiation.
  2. In addition to the movement of commercial reactor fuel, the Waste Isolation Pilot Plant (WIPP), the nation's facility for safe disposal of radioactive waste associated with the production of nuclear weapons, has an impeccable record for safe transportation of radioactive byproducts. More than 5,000 containers have been shipped safely to WIPP in New Mexico, including 700 shipments that have traveled safely over 1.5 million miles during the past three years.
  
- Before approving containers for use, the Nuclear Regulatory Commission requires that they are designed and tested to maintain safety even in extreme accident scenarios.
  1. The robust containers are constructed of many layers of steel and other heavy metals. The NRC requires used fuel containers to meet exacting standards prior to certification.
  2. Tests prove that containers keep used fuel safe even after withstanding high-speed crashes; extremely hot, fully engulfing and long-lasting fires; and submersion in water.
  3. Container designs will protect their cargo even in extreme circumstances, such as being broadsided by a locomotive at 80 miles per hour.
  
- There is no public health impact from shipments of used nuclear fuel.
  1. A person standing 100 feet from a vehicle that is carrying used nuclear fuel and moving 15 miles per hour is exposed to about one-millionth of the average radiation dose received by Americans annually from natural sources such as the sun.
  2. For additional perspective, standing next to the X-ray luggage inspection machine at an airport is about five times this amount, using a gas lantern when camping is about seven times this amount and watching television each year exposes individuals to about 2,500 times this amount.



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