



AMERICA'S NUCLEAR SOLUTION

TRANSPORTING NUCLEAR FUEL SAFELY

THE INDUSTRY'S RECORD

The nuclear energy industry has demonstrated over four decades that it can safely transport used nuclear fuel. In that time, it has completed thousands of shipments with no harmful release of radioactivity or any injuries, fatalities or environmental damage resulting from the radioactivity of the cargo.

The Department of Energy has an outstanding record of transporting non-civilian used fuel within the country and the Department of Transportation has an excellent record of oversight & regulation of used fuel transport plans.

Used fuel shipments are strictly regulated and have not released any radioactive materials since they began decades ago.

But the Nuclear Regulatory Commission (NRC) still periodically evaluates the risks. As more data become available and computer modeling improves, the understanding of these risks will continue to be refined.

TRANSPORT CONTAINERS

The containers that transport the used nuclear fuel are extremely robust, with multiple layers of steel, lead and other materials to confine radiation from the used fuel. These specially designed containers weigh between 25 and 40



tons for truck transport and between 75 and 125 tons for rail shipments, including the weight of the used fuel. Typically, for every ton of used fuel, there is about 4 tons of protective shielding. The containers can withstand high-speed crashes, long-lasting fires and submersion in water, all without breaking open.

The NRC must approve containers that transport used nuclear fuel. Before the agency certifies container designs, they must meet rigorous engineering and safety criteria. In addition, the container designs must be shown, by test or analysis, to survive a sequence of four hypothetical accident conditions simulating the cumulative effects of impact, puncture, fire and submersion.

REQUIRED SECURITY PLANS

NRC regulations require the establishment of a security plan to ship used nuclear fuel safely to a consolidated storage facility or final disposal repository. Waste is primarily shipped by rail. The shipper must track and monitor these shipments carefully over the entire route. The NRC must review and approve in advance the plan and procedures to protect against radiological sabotage or theft.

Prior to the commencement of any transportation campaign, the Department of Energy and the Department of Transportation will ensure that appropriate workers at the regional, state, local, and tribal level, including first responders, have the training and skills to ensure the safety of the public.

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