

5 COMMON MYTHS ABOUT TRANSPORTING SPENT NUCLEAR FUEL

Despite being safely transported in the U.S. for more than half a century, many still believe spent nuclear fuel (SNF) is too dangerous to transport. But, in reality, it's a well-coordinated process with a great track record—and we have the facts to prove it.

MYTH #1: SNF can't be safely transported

SNF is transported in the United States ALL the time. It's moved by road, rail, and waterway and shipped in durable containers that are designed to withstand extreme transportation accidents. More than 2,500 SNF shipments have been transported around the country without any radiological incidents over the past 55 years.

The Department of Energy (DOE) requires detailed preparations for SNF shipments. This covers everything from the containers, crew, and drivers used for transport to identifying travel routes as well as coordinating with States and Tribes along the way.

It is virtually impossible for a SNF transportation container to explode. To meet DOE or Nuclear Regulatory Commission (NRC) transportation requirements, SNF must be placed in a robust transportation container that is designed to protect against all possible releases of radioactive material. The container walls are made of steel, lead, and other shielding materials that are 5 to 15 inches thick. The ends are encased in impact limiters that absorb impact forces and protect the container from damage.

Transportation containers must pass a sequence of impact, puncture, fire, and water immersion tests that cover more than 99.9% of all travel-related accidents. While it is highly unlikely a SNF transportation container will encounter these extreme situations, DOE has physically tested these packages and confirmed their performance. [Click here for a video of DOE container tests.](#)

MYTH #2: SNF container will explode in an accident

Spent fuel containers won't spill "glowing goo," simply because commercial **SNF is actually a solid.** It is made of small, ceramic uranium fuel pellets stacked up inside metal fuel rods. The fuel is a solid when it goes into the reactor and remains a solid when it comes out.

When transported, SNF containers are tightly sealed to contain the radioactive materials. The robust structure and thick shielding ensures that SNF is safely contained both during normal conditions of transport, and during a potential transport accident. So, SNF does not glow, isn't green and there is no goo.

MYTH #3: A transportation accident could spill "glowing green radioactive goo"

According to NRC, the chances of a SNF container releasing radioactive material in a transportation accident is less than 1 in 1 billion. Despite these odds, DOE has created a [Transportation Emergency Preparedness Program](#) so that State, Tribal, and local responders have access to the training and technical assistance needed to handle a transportation incident involving DOE-owned radioactive materials. For ongoing DOE shipping campaigns, the agency provides funds to States and Tribes to support continued training for emergency officials.

Communication is also required throughout the entire shipment process. It is a coordinated effort among several government agencies including the U.S. Department of Transportation, NRC, U.S. Coast Guard, along with applicable State, Tribal, and local agencies. The SNF transportation containers are thoroughly inspected prior to departure and strictly monitored along the route using communications centers and telemetric monitoring technology for tracking.

MYTH #4: Emergency services are not capable of responding to a SNF transport accident

While it's impossible to block all radiation, the amount emitted from a SNF transportation container is very low and is lower than the background radiation that occurs naturally in the environment.

SNF transportation containers are designed to significantly limit radiation at the surface of the structure to low levels that meet regulatory requirements for safety. Even then, it is unlikely that an individual not associated with the transport of the SNF shipment, would ever be close to the package for a long period of time.

MYTH #5: Transporting SNF exposes the public to high levels of radiation

FOR MORE INFORMATION

DOE is building special railcars for SNF transport. For more information, [click here.](#)

