



Proven means of transport



Rail:

The casks are transported by rail on special wagons for highly radioactive materials which distribute the weight of the casks, which weigh over 100 tonnes each, evenly on eight axles. The wagons are equipped with transport frames that can be adjusted precisely to the casks to be transported, as well as a protective hood against soiling during the rail journey.

These wagons are used regularly for the transport of irradiated fuel elements on the European mainland. They have also been used for the return of Swiss reprocessing waste from La Hague (France) and Sellafield (GB) to the central Swiss interim storage facility ZWILAG, as well as for all transports from La Hague to Gorleben.

Sea:

Sea transport from the British port of Barrow-in-Furness to a German seaport is carried out by dedicated vessels of the PNTL fleet belonging to the British INS (INS Fact Sheet). All three almost identical vessels which are eligible for the return transports have the highest safety classification for the sea transport of highly radioactive substances (INF3) according to the INF-Code („International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on board Ships“) of the International Maritime Organization (IMO).

The Pacific Grebe has been used for transport in 2020. She was put into service in 2010 and is thus the youngest ship in the PNTL fleet. It was only in August 2020 that the UK Maritime and Coastguard Agency following an inspection renewed the INF3 status of the Pacific Grebe for a further five years.

The INF Code ("International Code for the Safe Carriage of Packaged Irradiated Nuclear Fuel, Plutonium and High-Level Radioactive Wastes on board Ships") was established by the International Maritime Organisation (IMO) of the United Nations and regulates shipments by sea of packaged irradiated nuclear fuel, plutonium and high level radioactive wastes. The Code defines classes of vessels based on the aggregate level of radioactivity that a ship is permitted to transport.

Pacific Grebe and the other two vessels in the PNTL fleet, Pacific Heron and Pacific Egret, are classified at the Code's highest level of INF3. INF3 ships are certified to carry irradiated nuclear fuel, high-level radioactive wastes, or plutonium with no restriction on the aggregate radioactivity of the materials.

Road:

If no railway siding is available at the starting point or destination, the casks must be loaded onto road transporters. These are special trailers pulled by heavy-duty tractors, which, just like the railway wagons, are equipped with special transportframes to hold the casks and protective hoods against soiling.



These vehicle combinations have already been regularly used during the transports from La Hague (France) to Gorleben.