

Manitouwadge Community Question Nov 2013:

We have seen testing of the transportation package around heat, fire, drop tests, water submersions, trains and explosions. In northern Ontario the package could be subject to extreme cold – i.e. temperatures at minus 40 or below. Has there been any testing of how extreme cold will affect the package generally and during an incident. Would the same drop test results be seen at minus 50 degrees? Does the package become brittle at those temperatures?

Thank you for your interest in Canada's plans for transporting used nuclear fuel. Safety is built into every element of the transportation system, beginning with the used fuel transportation package. This transport container is designed to protect the public by withstanding severe conditions. As you've noted, it must undergo a series of severe tests to ensure its radioactive contents are not released.

You asked specifically about the impact of cold temperatures. The used fuel transportation package is fabricated from a material called austenitic stainless steel, which is an alloy of iron, chromium and nickel. Austenitic steels are extremely tough and do not become brittle even at temperatures below -150°C . As a result, drop test results would not change as a result of exposure to Northern Ontario (extreme) winter temperatures.

We trust you find this information helpful,

Sincerely,

NWMO