

FRANCE (1)

	<p>Use of inappropriate tools to perform leak test, prior to shipping, of irradiated fuel packages</p>
<p>Date and location of the event (detection)</p>	<p>The event was detected in September 2018 and is applicable at several French nuclear power plants</p>
<p>Mode of transport</p>	<p>All modes potentially</p>
<p>Type of package involved</p>	<p>Fissile Type B packages</p>
<p>Radioactive material transported</p>	<p>Irradiated fuel</p>
<p style="text-align: center;">Description of the event</p>	
<p>In order to transport irradiated fuel packages (type B packages) in compliance with the safety regulations, leak tests are to be performed on packages before leaving the nuclear power plant (NPP).</p> <p>While preparing documents to support the future use of the new TN G3 package dedicated to the spent fuel transport (replacing the TN 12/2, 13/2 and 112 packages), French NPP operator detected that the internal volume of the tool used for leak testing the TN 12/2, TN 13/2 and TN 112 packages was not consistent with the volume taken into account in local shipping procedures and associated ranges.</p> <p>In the initial steps to characterize the extent of the deviation, the operator confirmed that some NPPs had tools which an internal volume different from the reference value. Since 1997, 306 shipments were potentially concerned by this issue.</p> <p>Moreover, shortfalls in taking into account the actual ambient pressure of the Fuel Building and uncertainties associated with the various pressure measurements and hypotheses for calculating the leakage rate were also identified in the procedures.</p>	



Actual consequences

Actual consequences: None, because the systematic verification of depression carried out on arrival at La Hague reprocessing plant was, for each package, satisfactory.

Potential consequences: Considering the conditions for carrying out the tests and the internal volumes of tools, the potential increase in overall leakage rate could not have exceeded the regulation's criteria.

Main causes of the events

The analysis revealed the use of some inappropriate tools to realize leak testing and shortcomings in interpretation and declination of the national reference criteria in local procedures, compromising the accuracy of calculation of leakage rate.

Summary of actions adopted

The operator established an action plan to:

- improve the technical control of the operational declination of the operator's national reference documents,
- periodically carry out an exhaustive control of the measurement chain,
- improve the tool management, at the national level, by the NPP operator,
- take into account this practical feedback to improve operator training.

Main lessons learned

This generic event shows a lack of rigor on the methods implemented to manage safety relevant parameters of the measurement's chain.