In September, INL operators prepared to run the first fueled experiment in TREAT in more than 20 years.

Keys to a successful restart

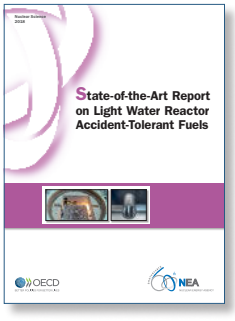
The next phase of the restart required an extensive walk-through of the facility to assess any damage and determine which areas needed work. The INL team noted and documented problems, such as missing or degraded parts. That produced an initial punch list of corrective maintenance activities.

"We wanted to renew the plant to its original operating configuration, but we did not want to extensively modify it because it's much easier to get authorization to restart if you can point to previous operating experience," Bumgardner said.

The team also evaluated the state of the technology, sometimes opting to replace old equipment and sometimes not. Among the equipment to be replaced were the chart recorders. At the time the reactor went into standby, instrument and other data were captured on paper. The chart recorders were replaced with modern electronic equivalents, in part because they were not an essential or mission-critical part of the reactor control system.

That was not the case for the Automatic Reactor Control System (ARCS), an Intel multibus system with 8,086 microprocessors. New when it was installed in the mid-1980s, ARCS was definitely a critical component. Versions of the same Intel system are still in use today, so spare parts

New from the **Nuclear Energy Agency (NEA)**

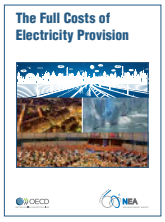


State-of-the-Art Report on Light Water Reactor Accident-Tolerant Fuels

oe.cd/nea-atf-2018

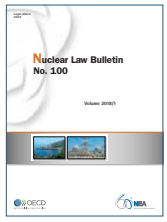
This state-of-the-art report reviews available information on the most promising fuels and cladding concepts in terms of properties, experimental data and modelling results, as well as ongoing research and development activities. It also includes a description of the illustrative accident scenarios that may be adopted to assess the potential performance enhancement of ATFs relative to the current standard fuel systems in accident conditions, a definition of the technology readiness levels applicable to ATFs, a survey of available modelling and simulation tools (fuel performance and severe accident analysis codes), and the experimental facilities available to support the development of ATF concepts.

Also available:



The Full Costs of Electricity Provision

oe.cd/nea-electricity-costs-2018



Nuclear Law Bulletin No. 100

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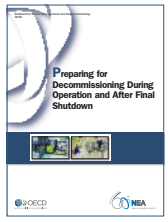

Preparing for Decommissioning During Operation and After Final Shutdown

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