



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs Telephone: 301/415-8200

Washington, D.C. 20555-0001

E-mail: opa@nrc.gov

Site: <http://www.nrc.gov>

No. 08-147

August 11, 2008

NRC ISSUES SUPPLEMENTAL PROPOSED RULE IMPROVING REACTOR VESSEL REQUIREMENTS

The Nuclear Regulatory Commission has issued a supplemental proposed rule improving the methods pressurized-water reactor (PWR) licensees use to account for some effects of aging on their reactor vessels.

The rule increases the realism of calculations used to examine a PWR's susceptibility to a phenomenon known as pressurized thermal shock (PTS). PTS can occur under some scenarios that rapidly cool the internal surface of a reactor vessel while the vessel is pressurized. This would subject the steel to large thermal stresses, which could lead to cracking and potential failure of the vessel. The other type of U.S. nuclear power plant design, a boiling-water reactor, is not susceptible to PTS.

The proposed rule allows licensees of operating PWRs to voluntarily adopt a more realistic technical approach for determining the probability of vessel failure during a PTS event. This revised approach was derived using data from research on currently operating PWRs that indicate the overall risk of PTS-induced vessel failure after 60 years of reactor operation is much lower than previously estimated. If a licensee chooses to adopt the new approach, the rule would require PWR operators to perform detailed analysis of both reactor vessel surveillance data and the results of regular reactor vessel inspections. If the analyses' findings exceed certain limits, the operator must take steps to either limit the reactor vessel's exposure to neutron radiation or determine how the reactor's systems can be modified to prevent PTS-induced vessel failure.

The rule will be available on the NRC's Web site by entering ML081440656 at this address: <http://adamswebsearch.nrc.gov/dologin.htm> . For more information on the rule, contact NRC staff members Veronica Rodriguez (telephone 301-415-3703, e-mail veronica.rodriguez@nrc.gov), Barry Elliot (telephone 301-415-2709, e-mail barry.elliott@nrc.gov), or Mark Kirk (telephone 301-415-6015, e-mail mark.kirk@nrc.gov).

###

News releases are available through a free *listserv* subscription at the following Web address: <http://www.nrc.gov/public-involve/listserver.html>. The NRC homepage at www.nrc.gov also offers a SUBSCRIBE link. E-mail notifications are sent to subscribers when news releases are posted to NRC's Web site.