

***News from Beyond Nuclear
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**Nuclear Licensing Board Issues Split Decision on Vessel Risks
at Entergy's Palisades Atomic Reactor**

***Critics Call for Permanent Shutdown to Avert Catastrophic
Meltdown, Vow Appeal of Contention Rejection***

Rockville, MD and Covert, MI—Representatives, an expert witness, and legal counsel for a grassroots coalition of environmental groups and concerned local residents vowed to appeal [yesterday's split decision, by a panel of three administrative law judges](#) at the U.S. Nuclear Regulatory Commission's (NRC) headquarters in Rockville, Maryland, just outside Washington, D.C. The Atomic Safety and Licensing Board Panel (ASLBP) recognized the legal standing of the coalition groups -- Beyond Nuclear, Don't Waste Michigan, Michigan Safe Energy Future (Shoreline Chapter), and Nuclear Energy Information Service of Chicago – as well as that of their local southwest Michigan members, who live near Entergy Nuclear's Palisades atomic reactor, located on the Lake Michigan shore in Covert, MI four miles south of South Haven. But the ASLBP rejected the admissibility of the intervenors' contention to proceed to a full evidentiary hearing on the risks of pressurized thermal shock. PTS is a severe overcooling of the reactor pressure vessel (RPV), as due to activation of the emergency core cooling system, combined with sudden re-pressurization – a one-two punch that could fracture the vessel metal or welds at an internal flaw, due to age-related, neutron radiation induced brittleness. A Loss-of-Coolant-Accident, core meltdown, containment failure, and catastrophic release of hazardous radioactivity could follow.

Referring to a precedent set in an earlier proceeding at an atomic reactor on the Lake Erie shore in northeast Ohio, the ASLBP granted legal standing to the anti-Palisades coalition, ruling: *“Petitioners’ contention relates to a similar potential injury, a release of radiation due to the potential failure of RPV integrity. It is obvious to this board, as it was to the [Nuclear Regulatory] Commission in Perry, that a change in the safety-related requirements intended to ensure the integrity of the RPV ‘obviously bears on the health*

and safety of those members of the public who reside in the plant's vicinity.' That is all the more apparent in this case because, as Entergy acknowledges, the alternative regulatory requirements proposed by the license amendment are less conservative than those that the amendment is intended to replace."

But when it came to the legal and technical bases for the coalition's concerns, the ASLBP ruled in Entergy and NRC staff's favor, against holding a hearing on the merits. The panel ruled that, although significantly weakened from previous standards, NRC's "alternate fracture toughness" regulations [Code of Federal Regulations, Title 10, Part 50.61a] are unassailable. The ASLBP ruled this way despite acknowledging that *"The [NRC] Staff has noted that Palisades in particular is one of the first plants likely to exceed the Current Screening Criteria, as Palisades' RPV is 'constructed from some of the most irradiation-sensitive materials in commercial reactor service today.'"*

"The Licensing Board has flatly admitted that Entergy and the NRC Staff are colluding to use a new regulation that is much less concerned about public safety than the old rule that's governed Palisades for decades," said Terry Lodge, attorney for the coalition. "You would think the Board would at least require the utility and so-called 'regulator' to put on expert testimony to refute our 40-year nuclear engineer's conclusions. You would think that when we exposed inconsistent explanations by Entergy for throwing out a damning embrittlement test result in the 1980's, the Board would force the utility to explain itself under oath. But since it's clear that the public interest in the safe operation of this indefensible reactor is of no official concern, we're left with no option but to appeal."

The Japanese Parliament, in its 2012 independent investigation of the ongoing Fukushima Daiichi nuclear catastrophe that began in 2011, concluded that the root cause, the reason the nuclear power plant was so vulnerable to the natural disasters, was collusion between the nuclear utility, the nuclear safety regulatory agency, and government officials.

NRC staff has admitted, on numerous occasions, that Palisades has the worst-embrittled RPV in the country. The embrittlement is caused by neutron radiation bombardment impacting soft metal impurities – such as copper, nickel, manganese, and phosphorus -- in the RPV walls and welds. The age-related degradation has been so bad, for so long, that Palisades' owners, and NRC, had previously indicated "End-of-Life," permanent closure dates as early as 1995. However, that has been postponed till 1999, 2000, 2001, 2004, 2014, April 2017, and now August 2017, thanks to various regulatory rollbacks and re-assessments over the years and decades. NRC has deemed the previous safety standard as "unnecessarily conservative," enabling Entergy to apply for major "regulatory relief," and continued operation till 2031.

Last Dec. 1, the coalition intervened against Entergy Nuclear's License Amendment Request (LAR), which seeks to apply the permissive NRC "fracture toughness rule" at Palisades. If successful, the intervention could force the permanent shutdown of the 44-year-old atomic reactor, one of the oldest in the country.

Entergy and NRC staff filed replies on Jan. 12, seeking to have the intervention dismissed. The coalition defended its filing on Jan. 20. The ASLBP held an oral argument pre-hearing at NRC HQ on March 25. [All of the documents in this docket, as well as the May 8 ASLBP ruling, are posted online at Beyond Nuclear's website.](#)

Nuclear engineer Arnie Gundersen of Fairewinds Associates, Inc., provided an [expert declaration](#) in his critique of the beleaguered nuclear reactor vessel. “By its continued operation as an embrittlement experiment, likely in violation of NRC regulations, the Palisades nuclear plant has become the symbol of a regulator-endorsed national test attempting to determine how long a damaged vessel can continue to operate without failing and having a major radiation release to the highly populated areas surrounding the plant,” stated Gundersen.

Gundersen has challenged NRC’s and Entergy’s over-reliance on mere mathematical estimates and extrapolation, rather than readily available, hard physical data. The last metal sample extracted and tested at Palisades was in 2003. The next scheduled is not until 2019. A 1984 sample was simply ignored, because its revelations were damning, “and would have required Palisades to be shut down,” according to Gundersen. A 2007 test was canceled. Although Palisades has several metal surveillance coupons available in the RPV, Entergy does not plan to pull and test them.

Gundersen has also published [an educational video -- “Nuclear Crack Down?”](#) -- showing how PTS can fracture an RPV like a hot glass under cold water (and 2,000 pounds of pressure per square inch).

Alice Hirt with Don’t Waste Michigan in Holland said “I feel like Alice in Atomic Blunderland, hearing Humpty Dumpty tell me we can’t take the metal sample, because if we take the sample, we won’t have any samples left to take.” She added: “They operate the reactor vessel blind to the potential of shattering, which would render Lake Michigan and surrounding environs uninhabitable forever. This is not only theater of the absurd, but criminal negligence.”

“With the continued identification of aging equipment failure at Entergy’s Palisades Nuclear Plant and Entergy’s repeated side-stepping of safe operation procedures, it is evident to the watchdog groups that the longer Palisades is allowed to operate the greater its risk of a breakdown phase accident and catastrophic release of hazardous radioactivity to the Michigan area and the larger Great Lakes region,” said Bette Pierman of Benton Harbor, Chairman of Michigan Safe Energy Future—Shoreline Chapter. “It is time to shut Palisades down before we are faced with this emergency from which we, in our lifetimes, will not recover,” Pierman said.

The previous owner of Palisades, [Consumers Energy, told the Michigan Public Service Commission in spring 2006](#) that the then-prospective new owner, Entergy Nuclear, would fix the reactor vessel embrittlement concerns, and replace the age-degraded reactor vessel closure head (lid) and steam generators. Nine years later, none of these vital safety repairs have happened.

“We’re simply trying to prevent a Fukushima nuclear catastrophe on the shoreline of the Great Lakes, drinking water supply for 40 million people,” said Kevin Kamps of Beyond Nuclear.

Lodge filed a second, related but separate intervention on behalf of the coalition on March 9. ([This docket of documents is also posted online at Beyond Nuclear's website.](#)) It challenges Entergy’s LAR to NRC for “equivalent margins analysis” regulatory relief from potentially disastrous “ductile tearing” (as opposed to brittle fracture) risks at Palisades, due to another form of age-related RPV metal degradation (loss of Charpy V-Notch Upper Shelf Energy below the 50 foot-pound screening criteria). The ASLBP has yet to rule on that intervention.