

**UNITED STATES OF AMERICA**  
**BEFORE THE NUCLEAR REGULATORY COMMISSION**  
**Before the Executive Director for Operations**

_____	)	Docket No. 50-255-LR
In the Matter of	)	
NUCLEAR MANAGEMENT COMPANY	)	
PALISADES NUCLEAR GENERATING	)	April 4, 2006
STATION	)	
_____	)	

**PETITION PURSUANT TO 10 CFR 2.206 FOR ENFORCEMENT ACTION**  
**TO TERMINATE USE OF DRY CASK STORAGE PADS**  
**AT PALISADES NUCLEAR POWER PLANT**

TO: Luis A. Reyes, Executive Director for Operations  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dear Mr. Reyes:

Pursuant to § 2.206 of Title 10 of the Code of Federal Regulations and on behalf of the five (5) organizational and thirty (30) individual Petitioners listed herein, I petition the Nuclear Regulatory Commission to take enforcement action in the form of condemning and forcing a halt to the use of the two (1993 and 2004) concrete pads holding dry casks storing used nuclear fuel at Palisades Nuclear Power Plant, owned by Consumers Energy, operated by Nuclear Management Company and located in Covert Township, Michigan on the eastern shore of Lake Michigan. The pads do not conform with longstanding NRC requirements for earthquake stability standards. Both were built on compacted sand and other subsurface materials, dozens of feet above bedrock and well above the ground elevation of the nearby Palisades Nuclear Power and pose a distinct hazard in the event of earthquake.

A detailed Memorandum in Support of Petition is attached.

/s/ Terry J. Lodge  
Terry J. Lodge  
316 N. Michigan St., Suite 520  
Toledo, OH 43624-1627  
(419) 255-7552  
Fax (419) 255-8582  
tjlodge50@yahoo.com  
Counsel for Petitioners

## **MEMORANDUM IN SUPPORT OF PETITION**

### **A. Factual and Legal Basis for Enforcement Action**

Neither the older (1993) nor the more recently-built (2004) concrete pads holding dry casks (which contained highly-radioactive used fuel) at Palisades conform with longstanding NRC requirements for earthquake stability standards. The accompanying Declaration of Dr. Ross Landsman,<sup>1</sup> formerly of the Nuclear Regulatory Commission staff, states that both pads were built on compacted sand and other subsurface materials, dozens of feet above bedrock and well above the ground elevation of the nearby Palisades Nuclear Power Plant. Dr. Landsman has decades of experience and filled a direct oversight role in the inspection of dry cask storage at Palisades when he worked at NRC Region III during the critical period of dry cask storage installation and operation from 1993 to 2005. He concludes from his personal knowledge of the subsoil conditions that the older, 1993, pad nearer Lake Michigan is in violation of NRC "liquefaction" standards under 10 CFR Part 72.212(b)(2)(i)(B)<sup>2</sup>, while the

---

<sup>1</sup>The Landsman declaration was proffered in 2005 for the record in support of a formal contention filed by these same Petitioners in the ongoing proceedings for a 20-year extension of Palisades' operating license, from 2011 to 2031 (ASLBP No. 05-842-03-LR).

<sup>2</sup>[The general licensee shall perform written evaluations, prior to use, that establish that]: Cask storage pads and areas have been designed to adequately support the static and dynamic loads of the stored casks, considering potential amplification of earthquakes through soil-structure interaction, and soil liquefaction potential or other soil instability due to vibratory ground motion.

newer, 2004, pad further inland violates NRC “amplification” requirements contained within the same regulations.

Neither the older nor newer dry cask storage pads at the Palisades plant were designed in consideration of the factors contained in the cited regulation. See Landsman Declaration, ¶¶ 3-13. Each violation, then, violates 10 CFR 72.212(b)(3).<sup>3</sup> This means that the cask storage pads ***have violated NRC regulations since they were constructed, and absent enforcement, they will continue to violate NRC regulations throughout any period of contemplated usage.***

The NRC staff considers the older (1993) pad nearer the lake to be in compliance with regulations and allows NMC to store high-level radioactive waste there, while the NRC is supposedly still trying to resolve through ongoing inspection, investigation, and analysis the status of the newer (2004) pad, which is situated further inland. During this extended period of investigation, the NRC is allowing NMC to store high-level radioactive waste on the new pad, despite the unresolved safety concerns.

Dr. Landsman understands that the 2004 pad was built large enough to accommodate all the dry casks currently stored on the 1993 pad, because, despite public pronouncements to the contrary by Consumers Energy, Nuclear Management Company, and the NRC, the older pad clearly violates regulations, which means that the 18 to 19 casks currently stored on the older pad<sup>4</sup> must be ultimately be moved to the newer pad. The problem is, moving the casks

---

<sup>3</sup>[The general licensee shall]: Review the Safety Analysis Report (SAR) referenced in the Certificate of Compliance and the related NRC Safety Evaluation Report, prior to use of the general license, to determine whether or not the reactor site parameters, including analyses of earthquake intensity and tornado missiles, are enveloped by the cask design bases considered in these reports. The results of this review must be documented in the evaluation made in paragraph (b)(2) of this section.

<sup>4</sup>Including the dangerously, unmovable cask #4 at Palisades, loaded in June 1994 and shortly thereafter admitted by Consumers Power to be defective, having faulty welds. And the configuration of the 18 to 19 dry casks currently stored on the older pad nearer Lake Michigan is such that the casks furthest back cannot be moved or unloaded until all other casks in front of them have been moved out of

from the older pad to the newer one resolves no safety considerations.

Dr. Landsman sought repeatedly while an employee for the NRC to see the unresolved safety issues posed by the noncompliant storage pads corrected. But presently there are 29 casks stored on them.

The NRC has not heeded Dr. Landsman's articulate warnings for more than a decade, contrary to the agency's mission and mandate to protect public health and safety and the environment. On February 17, 1994, Dr. Landsman, then at NRC Region III as a nuclear safety engineer and dry cask storage inspector overseeing Palisades, sent a letter to the then-Commission Chairman, Ivan Selin, warning that:

[I]f you use NRC-approved casks under Subpart K [of 10 CFR Part 72], the regulations are silent about the foundation material or the pad. Actually, it's the consequences that might occur from an earthquake that I'm concerned about. *The casks can either fall into Lake Michigan or be buried in the loose sand because of liquefaction. . . .It is apparent to me that NMSS [sic] doesn't realize the catastrophic consequences of their continued reliance on their current ideology.* (Emphasis added)

Dr. Landsman has never received a meaningful response to this warning from the Commission. His expressed concerns about the older pad - encompassing violations of NRC regulations and of public health and safety and environmental protections - remain inadequately addressed and unresolved to this day.

Perhaps the greatest earthquakes in the known history of North America were three from a much longer series, known as the Great New Madrid quakes of 1811-12. The New Madrid quakes were estimated to be of a magnitude of 8.0 or higher on the Richter Scale. They were felt over the entire United States outside of the Pacific coast. Large areas sank into the earth, new lakes were formed, the course of the Mississippi River was changed, and

---

the way first. This situation carries considerable risk, making it very difficult to timely deal with any emergencies in certain of the casks in the configuration.

forests were destroyed over an area of 150,000 acres. Many houses at New Madrid were thrown down. "Houses, gardens, and fields were swallowed up" one source notes. Chimneys were toppled in New England. The Great Lakes developed crashing tides, yet there was no significant wind.

According to the U.S. Geological Survey, the probability for an earthquake of magnitude 6.0, 7.0 or greater in the New Madrid zone is higher than 90% by the year 2045. <http://quake.wr.usgs.gov/prepare/factsheets/NewMadrid/>. Measurable, serious tremors could reach into central Michigan. See map at <http://hsv.com/genlintr/newmadrd/>. The largest quake in recent times originating within Michigan registered 4.6 on the Richter scale in August, 1947. [http://earthquake.usgs.gov/regional/states/events/1947\\_08\\_10\\_iso.php](http://earthquake.usgs.gov/regional/states/events/1947_08_10_iso.php).

Both ISFSI pads at Palisades have continuously violated NRC earthquake regulations since the day they were built. The NRC must not allow continued high-level radioactive waste storage on pads at Palisades that are in clear violation of NRC earthquake regulations.

## **B. Petitioners**

### **Organizations.**

Nuclear Information and Resource Service is a nonprofit corporation with over 6000 members, a number of whom live in the Great Lakes region of the United States, including over 100 in Michigan and 50 of whom make their residences within fifty (50) miles of the Palisades Nuclear Generating Station (hereinafter "Palisades"). The central office of NIRS is located at 6930 Carroll Avenue, Suite 340, Takoma Park, MD 20912.

Western Michigan Environmental Action Council is a nonprofit, tax-exempt environmental organization started in the mid-1960's. It has 1500 members, most of whom live in Michigan, and an estimated 400 to 500 live within 50 miles of the Palisades nuclear plant. WMEAC is located at 1514 Wealthy St. SE Suite 280, Grand Rapids, MI 49506. WMEAC's

representative in these proceedings is Alice Hirt, who resides at 6677 Summit View Drive, Holland, MI 49423, within 50 miles of the Palisades Nuclear Power Plant.

Don't Waste Michigan is a nonprofit organization begun in the 1980's with about 25 members, nearly all of whom live in Michigan, and of which an estimated 5 currently live within 50 miles of the Palisades nuclear plant.

The Green Party of Van Buren County is a political party and association of persons which came into being around environmental issues. It has a membership of approximately 15 members, all of whom are residents of Van Buren County, Michigan, and all of whom reside within 50 miles of the Palisades nuclear plant.

Michigan Land Trustees (website [www.michiganlandtrust.org](http://www.michiganlandtrust.org)) was founded in 1976. It is an association of 60 to 70 individuals and families dedicated to preserving and protecting farm land in Michigan. Most of its members reside in southwest Michigan, at least 15 of whom live within the 50-mile zone around the Palisades nuclear reactor.

#### Individual Petitioners

Ann Aliotta, 79955 Fernwood Walk, Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Katherine Beck, 30018 Lake Bluff Dr., Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Lee Burdick, 7130 Austrian Pineway, #13A, Portage, MI 49024, within 50 miles of the Palisades Nuclear Power Station.

Bruce Cutean, 3997 64<sup>th</sup> Street, Holland, MI 49423, within 50 miles of the Palisades Nuclear Power Station.

W. Ronald Elmore, 403 Water Street, Saugatuck, MI 49453, within 50 miles of the Palisades Nuclear Power Station.

Jane Gardner, 28386 Sturtevant, MI, 49043, within 50 miles of the Palisades Nuclear Power Station.

Barbara Geisler, 25485 County Road 681, Bangor, MI, 49013, within 50 miles of the Palisades Nuclear Power Station.

Karen Heavrin, 80012 Ramblewood Drive, Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Janine Heisel, 29818 Lake Bluff Drive, Covert, MI MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Mary Lou Hession, 29818 Lake Bluff Drive, Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Lauretta Holmes, 2923 Memory Lane, Kalamazoo, MI 49006, within 50 miles of the Palisades Nuclear Power Station.

Chuck Jordan, 50521 34<sup>th</sup> Avenue, Bangor, MI 49013, within 50 miles of the Palisades Nuclear Power Station.

Judy Kamps, 441 Fairfax Avenue, Kalamazoo, MI 49001, within 50 miles of the Palisades Nuclear Power Station.

Gary Karch, 251 Cass Street #714, Niles, MI 49120, within 50 miles of the Palisades Nuclear Power Station.

Maynard Kaufman, 25485 County Road 681, Bangor, MI 49013, within 50 miles of the Palisades Nuclear Power Station.

Nelly Kurzmann, 301 Edgemoor, Kalamazoo, MI 49001, within 50 miles of the Palisades Nuclear Power Station.

Nan Lewis, 80078 Ramblewood Drive, Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Michael Martin, 25741 31<sup>st</sup> Street, Gobles, MI 49055, within 50 miles of the Palisades Nuclear Power Station.

Maria Ochs, 4660 Sailview Drive, Holland, MI, within 50 miles of the Palisades Nuclear Power Station.

Elizabeth Paxson, 3258 Lorraine Lane, Saugatuck, MI 49453, within 50 miles of the Palisades Nuclear Power Station.

Ken Richards, 72772 County Road 380, South Haven, MI 49090, within 50 miles of the Palisades Nuclear Power Station.

Margaret Roche, 27842 Shorewood Walk, Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Pamela S. Rups, 2705 Pine Ridge Road, Kalamazoo, MI 49008, within 50 miles of the Palisades Nuclear Power Station.

James O. Schlobohm, 28324 Shorewood Drive, Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Sally P. Schlobohm, 28324 Shorewood Drive, Covert, MI, 49043 within 50 miles of the Palisades Nuclear Power Station.

Catherine Sugas 410 S. Sherman Street, Otsego, MI, 49078, within 50 miles of the Palisades Nuclear Power Station.

Elizabeth M. Sugas, 10888 Douglas Avenue, Plainwell, MI 49080, within 50 miles of the Palisades Nuclear Power Station.

Robin Tinholt, 6187 Bayou Trail, Saugatuck, MI 49453, within 50 miles of the Palisades Nuclear Power Station.

Barbara Trumbull, 80009 Ramblewood Drive, Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

Sally Zigmond, 79955 Fernwood Walk, Covert, MI 49043, within 50 miles of the Palisades Nuclear Power Station.

The petitioning organizations state that their members' interests will not be adequately represented absent this 10 CFR § 2.206 enforcement action. The petitioning individuals similarly state that their interests must be taken account of in this proceeding. All Petitioners believe that the continuing use of the existing dry cask storage pad facilities at Palisades Nuclear Generating Station poses an unacceptable risk to the environment, thereby jeopardizing the health and welfare of the respective organizational Petitioners' members, and of the individual Petitioners, who live, recreate and have businesses within the vicinity of the nuclear reactor site.

### **C. Conclusion**

The Petitioners respectfully request the Commission to investigate and take enforcement action against the owners of Palisades Nuclear Power Plant, in the form of ordering an immediate halt to the prospective use of the existing concrete storage pads, and further, to require the utility's owner to remove the dry casks from the existing pads to a properly-engineered and built storage facility as quickly as feasible.



/s/ Terry J. Lodge  
Terry J. Lodge  
Counsel for Petitioners