



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

October 2, 2012

LICENSEE: Entergy Nuclear Operations, Inc.
FACILITY: Palisades Nuclear Plant
SUBJECT: SUMMARY OF THE SEPTEMBER 12, 2012, PUBLIC MEETING REGARDING
PALISADES NUCLEAR PLANT

On September 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) held a two-part Public Meeting at the Beach Haven Event Center in South Haven, Michigan. During the first part of the meeting, members of Palisades Nuclear Plant staff presented their assessment of the results and the corrective actions taken for the 2012 safety culture assessment performed by a contractor. Members of the public observed this part of the meeting, which provided an opportunity to hear Entergy's presentation and questions from the NRC. Enclosure 1 is a list of attendees at the meeting. Copies of the slides used by the NRC staff and the licensee during the meeting can be accessed through the NRC's Agencywide Document Access and Management System: ADAMS (ML#'s 12249A291 and 12255A009).

The second part of the meeting provided members of the public with the opportunity to interact directly with the NRC staff by asking questions and providing comments. Several members of the public expressed concern that Palisades was not safe and appealed to the NRC representatives to shut down the plant. Various other topics were discussed including emergency preparedness; plant aging; and NRC oversight and assessment of plant performance. Also during this part of the meeting, Mr. Kevin Kamps of Beyond Nuclear requested and the NRC agreed to include his written statement in this meeting summary (Enclosure 2).

In addition to answering questions from members of the public, NRC representatives received written questions the NRC answered for the record and included in the meeting summary (Enclosure 3).

Sincerely,

/RA/

John B. Giessner, Chief
Branch 4
Division of Reactor Projects

Enclosures: As Stated

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PUBLIC MEETING PRINCIPAL ATTENDEES

SEPTEMBER 21, 2012

NRC Attendees

C. Casto, Regional Administrator
G. Shear, Acting Division Director, Division of Reactor Projects
J. Giessner, Chief, Division of Reactor Projects, Branch 4
L. Jarriel, Agency Allegation Advisor, Office of Enforcement
T. Taylor, Senior Resident Inspector, Palisades
A. Scarbeary, Resident Inspector, Palisades
J. Heck, Regional Attorney and Meeting Facilitator
D. Alley, Senior Materials Engineer, Office of Nuclear Reactor Regulation
M. Chawla, Project Manager, Office of Nuclear Reactor Regulation
J. Lennartz, Project Engineer, Division of Reactor Projects, Branch 4
K. Martin, Human Factors Engineer, Office of Nuclear Reactor Regulation
T. Riley, Congressional Affairs Specialist, Office of Congressional Affairs
S. Sheldon, Senior Reactor Engineer, Engineering Branch 2

Entergy Attendees

A. Vitale, Site Vice President, Palisades
A. Williams, General Manager Plant Operations, Palisades
B. Davis, Engineering Director, Palisades
C. Arnone, Nuclear Safety Assurance Director, Palisades

Members of the Public

Included on attached meeting attendance sheets.



U.S. Nuclear Regulatory Commission

Public Meeting to Discuss Palisades Safety Culture

September 12, 2012

Beach Haven Event Center, South Haven Twp., MI

Name	Organization
Jan Herkel	PPCC
Mike Phillips	VB Co Resident
Maynard Kayfman	Michigan Land Trust
Thomas E. Ealy	Energy
Vivian Waldron	PPCC
William K. VAEK	COVERT RESIDENT
Brandon M. Muen manjudnich	Home owner S.H. shooter station
Ken Yale	MIDEX
PIE SABO	PALISADES LLC.
Hugh Nixon	PALISADES
Andy Nollbaum	Palisades
Sherry Scott	MI OSHA
TOM STEGEMAN	DEERFIELD FARMS
ALAN J. OLSON	
Kevin Kamps	Beyond Nuclear
Ken Whigley	
Gregory Wilcox	
Whisper Group	ENERGY PALISADES
Jay Kehler	ENERGY Palisades
Scott Taylor	NEC OIG
Roger Smith	Palisades



U.S. Nuclear Regulatory Commission

Public Meeting to Discuss Palisades Safety Culture

September 12, 2012

Beach Haven Event Center, South Haven Twp., MI

Name	Organization
Genevieve J. Kueck	Covert Resident.
Bill Dornrey	Stevensville
Margaret Archibald	St. Joseph
Ben Benham	Covert, mi
Clay McCausland	US Rep. Fed. Update
CHRIS PLACHTA	ENERGY
CHRIS SUNG	ENERGY
Suzie Fitzgibbon	City of South Haven
Bette Pierman	Benton Harbor
John Dills	ENERGY
DALE WAY	ENERGY
Marilyn Tracy	St. Joseph
Richard Gsell	Richard Gsell
Kathy Barnes	
Kris Emppichan	Self.
Judith Hamilton	self
Elizabeth M. Anderson	local citizen
Carol McCabhan	League of Women Voters, Holland area
Mindy Anderson-Hageron	citizen - so. haven
Marian S. Anderson	citizen - so. haven (senior)
Paul De Wilkes	Self
JEFF PROGRASIMSON	ENERGY
MARK MONACELLI	ENERGY
DONS W. LONNYLE	ENERGY
DANIEL FARMER	SELF



U.S. Nuclear Regulatory Commission

Public Meeting to Discuss Palisades Safety Culture

September 12, 2012

Beach Haven Event Center, South Haven Twp., MI

Name	Organization
John McGinn	Entergy
Charles Arnove	Entergy
TOMY VITALE	ENTERGY
DAVE KRAFT	NETS, Chicago IL
Carol Kurz	NETS - EVANSTON IL
Wade Adams	US citizen
George Theodoru	KNOW
Margaret al-Oboudi	KNOW
Jerrisa Keener	resident
Robert Keener	resident
OTTO SUSTAFSON	ENERGY
BARRY DAVIS	ENTERGY
BILL MCKELVY	ENTERGY
KRAIG SCHULTZ	OTTAWA COUNTY CITIZEN
Randy Placek	Certrec
Kimber Kotas	DSE TV 96 Govt. Access Museum
Ron Dixon	Entergy
Betty Kronmeyer	resident
Ann Juch	resident Kent Co.
William Reed	YPC
Michael Sicard	Entergy
Jennifer Helms	Entergy -
Jim Miksa	Entergy
LINDA MEEK	CITIZEN
JIM RIKLE	A R
John Kasishke	Entergy

Media Statement by Kevin Kamps
Radioactive Waste Specialist
Beyond Nuclear

September 12, 2012

Regarding NRC/Entergy public meeting about safety culture collapse
at Palisades atomic reactor

"If not for courageous Palisades' whistleblowers confiding in their attorney, Billie Pirner Garde, we would not even know about the complete collapse of safety culture at Palisades. She turned to U.S. Representative Ed Markey, Democrat from Massachusetts, for help. He demanded that NRC fork over the goods, not only on the collapse of safety culture, but also the year-long leak of radioactive and acidic water into buckets in the safety-critical control room, at a rate as high as 30 gallons per day. We are very thankful to the Palisades whistleblowers, their attorney, and Congressman Markey for safeguarding public health, safety, and the environment of southwest Michigan by revealing such dark secrets at Palisades. Quite to the contrary, NRC and Entergy had colluded to cover up the scandals, not only from the public, but even from the Chairman of NRC itself, Dr. Gregory Jackzo, who was kept in the dark as he toured Palisades on May 25th.

Such leaks risk short-circuiting safety-critical controls. The most serious accident of several at Palisades in 2011, the one that landed it on NRC's list of four worst-run atomic reactors in the U.S., involved just such a loss of power, to half the control room. The near electrocution of a worker due to short cuts on safety resulted in 22 systems instantly going haywire, turning off when they were supposed to be on, and vice versa. Palisades personnel struggled for hours to bring the reactor back under control.

A giant steam generator, degraded and five years overdue for replacement (for the second time in Palisades' history), nearly completely filled with water, which would have challenged the control of pressure and temperature in the reactor core. It also tested the fragile steam generator tubes to the rupture point. Failure of enough steam generator tubes all at once would lead to a loss of coolant accident in the reactor core, with the potential for nuclear fuel meltdown, containment breach, and catastrophic radioactivity release.

As if that weren't bad enough, Palisades flirted with a second pathway to loss of coolant accident on September 25, 2011. The Emergency Core Cooling System was inadvertently activated, but failed to insert cooling water into the reactor core. That raises its own concerns. But it was fortunate, actually. Palisades has the worst embrittled reactor pressure vessel in the U.S. Upon introduction of emergency core cooling water, the reactor pressure vessel could fracture like a hot glass under cold water. A loss of coolant accident would follow, with potential for meltdown, containment breach, and catastrophic radioactivity release.

A 1982 NRC-commissioned study, CRAC-2 (Calculation of Reactor Accident Consequences) reported that a catastrophic radioactivity release at Palisades could result in 1,000 "Peak Early Fatalities," 7,000 "Peak Early Injuries," 10,000 "Peak Cancer Deaths," as well as \$52.6 billion in property damage. But those casualty figures were based on 1970 U.S. Census data. As reported by Jeff Donn in the Associated Press's "Aging Nukes" series in June 2011, populations have soared near nuclear power plants, including Palisades, over the past four decades. This means casualties would be significantly worse now. And, expressed in 2010 dollar figures, property damages would approach \$120 billion.

The 45 year old Palisades atomic reactor, deep into its age-degraded break down phase, is a catastrophe waiting to happen. It must be shut down before it melts down."

Questions for the NRC/Palisades Meeting on Safety Issues, September 12, 2012

1) Have the repairs listed as needed in the 2006 sale of Palisades to Entergy been completed yet?

Answer: Entergy is responsible for adhering to the NRC's safety requirements. The NRC enforces these requirements and verifies that the plant continually meets the conditions of its license. If the company had made commitments to the NRC for additional repairs as a condition of the license to operate Palisades, the agency would make sure the company adhered to these commitments. No such commitments were made to the NRC. The bottom line and our constant focus is the safe operation of this plant and we are on the job every day making sure the NRC's safety standards are met.

2) What if any changes have been made to requirements for Palisades to report safety incidents to NRC and the public, like the 2012 leaks in coolant water which were not reported to former NRC Chief Gregory Jaczko when he toured the Palisades plant May 25, 2012, and then met with citizens who raised safety concerns about leaks and possible water pollution?

Answer: All nuclear plants, including Palisades, are required by the NRC to report situations and events that are significant to plant safety. The NRC's reporting requirements are based on how much impact the issue can have on plant safety. All events reported to the NRC can be viewed at the NRC's public website at <http://www.nrc.gov/reading-rm/doc-collections/event-status/event/>. For example, the leak from the Control Rod Drive Mechanism 24 housing was reported to the NRC and to the public because it exceeded this threshold. The NRC responded aggressively to the leakage from the Safety Injection Refueling Water Tank (SIRWT) and into the control room by dispatching additional inspectors to the plant and monitoring the plant's handling of these issues very closely. However, these leaks did not exceed the reportability threshold. These reportability requirements have remained unchanged.

Even though the NRC's requirements have not changed, we have responded to the public's heightened concern of Palisades despite issues not exceeding the regulatory reportability threshold. For example, we provided public information about the service water leak; generated publically available meeting summaries of conversations between NRC and Entergy on topics of public interest (e.g. the Control Rod Drive Mechanism discussions), held additional public meetings and webinars to keep the public informed and made the NRC staff available to answer questions from the public.

On the day of former Chairman Jaczko's visit to Palisades, the licensee recorded a leakage rate from the SIRWT of 20 gallons per day into areas of the plant that were adjacent to the control room, but not generally accessed by personnel. All the leakage was collected by the licensee, measured for the purpose of trending the leak, and disposed of as radioactive waste. There was no leakage into the control room during the former Chairman's visit.

3) How can the public access the information on leaks, including dates and amounts and contents of any leakage?

Answer: The NRC requires the plant to monitor leaks from various systems, especially those that are significant to plant safety. Details related to leaks inside nuclear plants that are considered risk and safety significant are documented in NRC inspection reports. The leaks that are not considered risk and safety significant are not documented. The NRC requires leaks released outside of the plant to be reported in publicly available annual effluent and the environmental monitoring reports. The following link to the NRC Website contains an alphabetical listing of all nuclear plants in the United States with an associated link to inspection reports issued from early 2000:

http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/listofrpts_body.html

NRC's inspection reports and other documents can be accessed through ADAMS at:

<http://www.nrc.gov/reading-rm/adams.html>

4) How often are tests for radionuclides conducted of air and groundwater and surface water (including Lake Michigan, the source of our drinking water) to see if there is any risk to air or water quality and public health?

Answer: The NRC requires licensees to monitor the levels of radionuclides in air, water, plants and animals local to the plant:

- Air Sampling is continuous and collected weekly.
- Lake (surface) water at the plant lake water inlet is a monthly sample.
- Lake (drinking) water at the South Haven drinking water supply is a monthly composite sample.
- Lake water control location at the Ludington pump storage is a monthly composite sample.
- Well (drinking) water is a monthly sample at the Palisades Park Community when the well is in operation.
- Fish samples are performed on a semi-annual basis.

The recent reports related to radionuclide sampling and reporting and their frequency can be viewed at:

<http://pbadupws.nrc.gov/docs/ML1212/ML12121A010.pdf> and

<http://pbadupws.nrc.gov/docs/ML1113/ML11139A147.pdf>

5) Where can the public see the results of these tests?

Answer: The Palisades environmental monitoring report and effluent monitoring report can be accessed through the NRC Website at:

<http://www.nrc.gov/reactors/operating/ops-experience/tritium/plant-specific-reports/pali.html>



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Letter to Entergy Nuclear Operations, Inc. from J. Giessner dated October 2, 2012.

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