

Congress of the United States
House of Representatives
Washington, DC 20515-2107

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The Honorable Allison M. Macfarlane
Chairman
Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Chairman Macfarlane:

I write to request information regarding the most recent August 12, 2012, shutdown of the nuclear reactor at the Palisades Nuclear Generating Station located on the southeastern shore of Lake Michigan near the city of South Haven, Michigan. The shutdown was planned in order to investigate an unidentified leak in the Primary Coolant System. Because the leak was in the containment, the plant had to be shut down before an investigation could safely begin. During the shutdown, a steam leak was discovered in a control rod drive mechanism in the containment building, and this steam leak was determined to be the cause of the increase in the Primary Coolant System leak rate. These mechanisms are designed to insure that reactor control rods are in the correct position at precisely the right time in order to control nuclear reactions. These recent leaks are just the latest in a long series of leaks and other problems that have plagued Palisades in recent years that have led me to question the adequacy of both the safety and safety culture at this facility.

For example, this letter comes on the heels of my June 22, 2012, letter regarding a separate leak of a safety injection and refueling water tank.¹ In that letter, I wrote to you regarding a water storage tank that was dumping tens of gallons of water into the reactor's control room. The leak had been known to the plant licensee, Entergy, and to the NRC for approximately one year, yet the leak was not repaired and, in fact, worsened, leading a shutdown on June 12, 2012. Furthermore, on December 1, 2011, I wrote to the NRC regarding the August 9, 2011, shutdown at Palisades due to the failure of a Service Water Pump.² That failure was due to cracking of stainless steel alloy with well-known cracking susceptibility, yet that material continues to be used in components of nuclear power plants, including Palisades.

The Palisades Nuclear Generating Station is one of the ten oldest nuclear plants in the U.S. and has suffered a number of safety problems in recent years. In 2011, Palisades underwent five unplanned shutdowns. In the first two months of 2012 alone, the NRC issued four official NRC Escalated Enforcement Actions.³ Furthermore, earlier this year, the NRC characterized Palisades as one of the least safe nuclear reactors in the country when it downgraded it to the

¹ http://markey.house.gov/sites/markey.house.gov/files/documents/06-22-2012_LettertoNRC_Palisades.pdf

² http://markey.house.gov/sites/markey.house.gov/files/documents/Letter%20to%20NRC_Palisades_01Dec2011.pdf

³ <http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/reactors/p.html#Palisades>

third safety category of five,⁴ a status currently shared only by two other reactors⁵ (only one reactor in the country ranked lower⁶).

In the most recent incident at Palisades, in July 2012, the NRC began monitoring an unidentified leak in the Primary Coolant System.⁷ In the Primary Coolant System, water is used to cool off nuclear reactor components. On August 12, 2012, the time of the shutdown that was planned to identify the source of that leak, the unidentified leakage was about 0.3 gallon per minute and rising. Following the shutdown, the containment was entered and it was determined that the cause of the rise in leakage was a steam leak originating on a control rod-drive mechanism pressure housing.⁸ This leak constituted pressure boundary leakage, a condition prohibited by regulation and requiring repair. The drive mechanisms permit control rods to be inserted and withdrawn from the nuclear fuel by control room operators to regulate reactor power levels. According to the Event Notification Report, “leakage from this area is unexpected”.⁸ The limit for a leak in this area is zero gallons per minute, and the licensee will need to fix the leak before Palisades returns to operation.⁷ I understand that the reactor returned to operation earlier today after making the necessary repairs.

As the Union of Concerned Scientists noted in its July 16, 2010, brief entitled “Headaches at Palisades: Broken Seals & Failed Heals,” Palisades has also been plagued by chronic leaks from the control rod drive mechanism seals.⁹ In their analysis, the problems at Palisades dwarf those at other similar pressurized water reactors in the U.S. because the licensee has not adequately fixed the root causes of the problems. The NRC responded to the Union of Concerned Scientists brief that “the NRC does not consider identified [control rod drive] seal leakage at Palisades as a “significant condition” adverse to quality.”¹⁰

Given this troubling pattern of leaks and unplanned shutdowns, perhaps it should not be surprising that a recent safety culture assessment at Palisades reached some alarming conclusions.¹¹ The independent study, conducted in January and February, 2012, examined the status of safety culture components at the nuclear plant as defined by the NRC.¹² Among the most troubling of the assessment’s findings:

- Events have occurred at Palisades in which deviation from industry practices contributed to the occurrence or severity of those events.
- The majority of Palisades employees are not confident that management will be open, will make the right decisions, and really mean what it says.
- There is a lack of belief that Palisades management really wants problems or concerns reported or that issues will be addressed.

⁴ http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/actionmatrix_summary.html#am_summary

⁵ The Perry Nuclear Power Plant's Unit 1 generator near Cleveland, Ohio, and the Susquehanna Nuclear Power Plant's Unit 1 generator in Berwick, Pennsylvania

⁶ The Browns Ferry Unit 1 near Athens, Alabama

⁷ <http://pbadupws.nrc.gov/docs/ML1222/ML12228A480.pdf>

⁸ <http://www.nrc.gov/reading-rm/doc-collections/event-status/event/2012/20120813en.html#en48182>

⁹ http://www.ucsusa.org/assets/documents/nuclear_power/20100716-pal-ucs-brief-leaking-crd-seals.pdf

¹⁰ <http://pbadupws.nrc.gov/docs/ML1035/ML103540550.pdf>

¹¹ <http://markey.house.gov/document/2012/nrc-response-palisades>

¹² <http://www.nrc.gov/about-nrc/regulatory/enforcement/safety-culture.html>

- There is a perception that the majority of employees believe that they cannot challenge management decisions, that helpful criticism is not encouraged, and that they cannot approach management with their concerns. There is evidence of a lack of accountability at all levels of Palisades.

Considering the recent history of Palisades and the clear problems in its safety culture, this latest incident of a control rod drive mechanism housing leak is the most recent event in a pattern of incidents. I therefore ask that you address the following:

1. The August 12, 2012, shutdown of Palisades was planned in order to investigate an unidentified leak in the Primary Coolant System that had reached a rate of 0.3 gallons per minute and rising.
 - a. When was this leak first discovered? When was it first reported to the NRC? How long was the leak rate at 0.3 gallons per minute?
 - b. Exactly how was the leaked coolant water disposed of?
2. Regarding the steam leak in the Control Rod Drive Mechanism that was discovered during the August 12, 2012, shutdown of Palisades:
 - a. What was the cause of the leak? Have the necessary repairs been made? If not, when will they be performed? How and when will the NRC verify that the repairs have been completed?
 - b. Please explain how this leak may be similar or otherwise related to the leaks discussed in the Union of Concerned Scientists' July 16, 2010, brief entitled "Headaches at Palisades: Broken Seals & Failed Heals"? If it is not related, please provide a full explanation of the differences.
 - c. Based on informal communication between my staff and staff at NRC, I understand that the licensee replaced the leaking Control Rod Drive and inspected others for cracks in others and performed additional analysis and actions to ensure that the plant, if restarted, could operate safely. Please provide the full details and results of these inspections, analyses, and actions.
 - d. It is also my understanding that Palisades is now operational. When was the decision made to restart the plant? How was that decision made? When exactly did the plant restart?
 - e. Are you satisfied that the licensee's actions to resolve the Primary Coolant System leakage are sufficient to prevent similar leaks in the future? If yes, why? If no, why not?
3. My letter sent on June 22, 2012, was in response to a June 12, 2012, shutdown of the Palisades reactor due to a leak in the safety injection refueling water storage tank.¹³ The tank is a source of borated water for activities during refueling outages and also supplies the Emergency Core Cooling Systems and the Containment Spray System during emergencies. The leak had been known for at least a year prior to that shutdown. I appreciate your response to that letter. I do, however, have several follow-up questions prompted by your response:

¹³ <http://pbadupws.nrc.gov/docs/ML1216/ML12166A261.pdf>

- a. In response to my request for the NRC to provide a copy of the safety culture assessment report, you provided the executive summary. Please provide the full report. If you do not have the full report, please request that the licensee provide you with a copy and include it with your response to this letter.
 - b. In response to my request for the NRC to provide a copy of the presentation entitled "Palisades Nuclear Power Plant Safety Culture Assessment Results," dated April 5, 2012, your response stated that "The NRC does not have a copy of the licensee's presentation related to the assessment results." Please request that the licensee provide you with a copy of this presentation and include it with your response to this letter.
4. When speaking about the leak that caused the June 12, 2012, shutdown of Palisades, Entergy spokesman Mark Savage claimed that no pails or buckets were ever used to collect the radioactive leaked water, but that "containment basins" were used.¹⁴ However, in the NRC response to my June 22, 2012, letter, it is stated that both a 1-liter bottle and a 5-gallon bucket were used to collect leaked water. Moreover, it is unclear to me what practical, functional difference exists between a pail, bucket, bottle or containment basin in the first place.
- a. In May 22, 2007, then-NRC Chairman Greg Jaczko stated that "Not only does the public need to have access to the same information that we have, but they have to have access to understand the decision-making process we use as a regulatory body."¹⁵ Do you agree with Dr. Jaczko's statement? If so, how do you reconcile Dr. Jaczko's statement with Entergy's public statement? If you do not agree with Dr. Jaczko's statement, why not?
 - b. What NRC policies are in place to ensure that licensees provide the public with truthful statements?
5. Former NRC Chairman Greg Jaczko toured the Palisades plant on May 31, 2012, but he was reportedly not made aware of the leak of water into the control room prior to or during this inspection.¹⁶ After the leak caused the plant to shut down two weeks later and he became aware of the issue, then-Chairman Jaczko asked the NRC's Office of Investigations to examine why the leak was not disclosed at the time of his visit. Commissioner William Ostendorff, however, objected to the inquiry and demanded it be halted, calling it a "waste of agency resources."¹⁷
- a. Has the NRC's Office of Investigations commenced an examination into this matter? If not, why not, and will you request that it immediately do so?
 - b. Please provide details of the status of the leak (e.g. leak rate, water collection method) at the time of then-Chairman Jaczko's May 31, 2012, visit.
 - c. On what date was the NRC first made aware of the leak and in what form was this information transmitted? Please provide copies of all documents (including but not limited to memos, letters, emails, phone or meeting logs) related to the manner in which NRC first learned of this leak.

¹⁴ <http://www.detroitnews.com/article/20120628/OPINION03/206280367>

¹⁵ <http://pbadupws.nrc.gov/docs/ML0718/ML071870373.pdf>

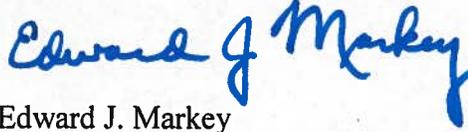
¹⁶ http://www.huffingtonpost.com/2012/08/14/huffpost-hill---president_n_1777219.html

¹⁷ http://www.huffingtonpost.com/2012/08/15/william-ostendorff-nuclear-safety_n_1778989.html

6. Entergy's license to operate Palisades was renewed on January 17, 2007, extending its license from 2011 to 2031. In less than six years since the license was renewed, the NRC has issued six Escalated Enforcement Actions to Palisades. This history and the recent safety culture assessment do not inspire confidence that Palisades will be able to operate safely for the more than 19 years left in its operating license.
 - a. Are you confident that the Palisades Nuclear Generating Station can safely operate for the remainder of its license term? Please provide a detailed explanation.

Thank you very much for your consideration of these important matters. Please provide your response no later than close of business Friday, September 21, 2012. If you have any questions or concerns, please have your staff contact Dr. Michal Freedhoff of my staff at 202-225-2836.

Sincerely,



Edward J. Markey