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## **Petitioner's Exhibit-1**



## Inside Palisades: NRC inspectors give glimpse into nuclear power plant (with videos, photo gallery)

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By

**COVERT** — Security is tighter than at airports: turnstile cages, metal and explosive detectors, full-body scanners, guards with assault rifles.

Inside the razor-wire fences surrounding Palisades nuclear power plant, John Ellegood and Tom Taylor are the odd men out among the 700-some people working there.

They are resident inspectors from the **Nuclear Regulatory Commission**, the two government workers who are onsite daily, making sure the plant is operating in compliance with federal regulations.

"We're always looking at low-probability but high-consequence type of events," said

Ellegood, who worked at the plant for the past seven years. "We have to take a step back and say 'everything has to work.'"

And everything at the plant near South Haven hasn't been working as it should. In the past year, **Palisades has been downgraded by the NRC**, which has classified it as one of the four worst performing nuclear plants in the United States. Recent events include an **August coupling failure** in one of the plant's service water pumps and a shortcut in an **electrical procedure that tripped a reactor shutdown** and prompted a weeklong plant shutdown in September.

The downgrade will force more inspections at the plant, owned by Entergy Corporation.

The plant's two regular inspectors look at day-to-day operations to prevent an error that would put the 41-year-old plant at risk for a nuclear meltdown.



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Mark Bugnaski | [MLive.com](http://MLive.com)

Odd men out: John Ellegood, left, and Thomas Taylor, Nuclear Regulatory Commission inspectors.

[Inside Palisades Nuclear Power Plant gallery \(29 photos\)](#)

The NRC, which grants nuclear power plants their operating licenses and has the ability to shut them down, assigns two full-time, on-site inspectors to each of the 66 nuclear power plants across the country.

There are baseline criteria that every nuclear plant must follow, but each plant is different and there are different things inspectors like Ellegood and Taylor have to check every day.

A work day starts around 6:15 a.m. with a review of the plant logs from an Entergy computer in the NRC's office, located in the heart of the plant. Every day the inspectors go through condition reports to see what employees identified as concerns the previous day.

"We make a point to see what problems employees are flagging and we tailor our inspection activities for the day based on what we see," said Taylor, a 37-year-old U.S. Navy veteran who worked on a nuclear submarine before joining the NRC in 2001. He is now the senior resident inspector at Palisades.

There can be 20 to 30 reports a day, Taylor said. The problems can range from an employee arriving late to a training class to a loose bolt on a water pumps, which could put the plant at a higher security risk in the event of an emergency.

What they choose to inspect is based on how serious of a risk a problem poses. "With two personnel on site, there is no way we can watch every single person, every single activity, every single day," Taylor said. "So we use the available resources and information we have and look at what appears to be the most significant."

This sampling program is designed to allow the inspectors to see problems before they develop into something

#### **Inside Palisades Part 1: The Inspectors**

Where we see what Nuclear Regulatory Inspectors do day-in ad day-out to make sure Palisades nuclear power plant operates safely.

#### **Inside Palisades Part 2: The Control Room**

Where we see the control room for Palisades nuclear power plant and learn about how operators make the plant function.

#### **Inside Palisades Part 3: DC Power Failure**

Where we learn more about a September electrical fault that resulted in a reactor trip and the plant shutting down for a week. The NRC concluded that the worker did not follow proper procedures.

#### **Inside Palisades Part 4: The Technical Support Center**

Where we tour the place in Palisades nuclear power plant where if there is a problem, the NRC and Entergy responds.

#### **Inside Palisades Part 5: Coupling Failure**

Where we see what caused an August coupling failure at Palisades Nuclear power plant

more significant.

With the recent events that prompted the NRC to downgrade the plant, Ellegood said there were signs of degraded performance of workers before the major problems occurred.

"We know there were some procedural weaknesses, but I can't go out and point to this piece of equipment and know the procedure was weak," Ellegood said. He likened it to a police officer looking for drunk drivers: the officer knows drunken driving is a problem, but he cannot stop a man walking into a bar at 5 o'clock and arrest him.

"You want to get things early when you can, but we don't have a crystal ball," he said.

Ellegood and Taylor attend the plant's daily management meeting. If anything on the day's agenda sticks out or carries a high risk of causing safety problems, they get information about the procedure and show up for it.

But they don't coordinate their inspections with plant officials. They mostly observe and do not give advice, Ellegood said. If plant officials ask a question, the inspectors tell them what NRC regulations require.

Ellegood and Taylor inspect all safety-sensitive parts of the plant at least once a week. Once a day, they make a point to go to the control room, which is a few minutes from the NRC office.

On a recent morning, the room that controls all operations at the plant, including the 204 radioactive fuel assemblies in the reactor core, is calm. As Ellegood explains the various capacities of the room, plant employees enter but immediately stop near the inner door, where a man is seated behind a desk. There is a line on the floor. No one can go past it and into the control room without permission.

While inspectors have unrestricted access to the entire plant, they still stop at the desk. "We do it as a courtesy," Ellegood said.

The recent problems at Palisades and last year's disaster at the Fukushima Daiichi reactor in northern Japan have heightened concerns among some residents who live near the plant and who have turned out for recent meetings the NRC has hosted to discuss the plant's performance.

At a meeting Wednesday, **Entergy officials outlined wide-ranging steps to address operations and the overall safety culture** at the plant. The NRC said it will be monitoring the company's progress closely.

Both Ellegood and Taylor live within 10 miles of the D.C. Cook nuclear power plant in Bridgman, which is 30 miles down the Lake Michigan shoreline from Palisades. The NRC inspectors say the recent problems at Palisades don't make them feel at risk either at work or about nuclear energy in general.

"If I felt unsafe at any point in time, I would be the first person to make sure action was taken," Taylor said.

"We have a family here," added the 48-year-old Ellegood, who is transitioning to become lead inspector at D.C. Cook (inspectors need to work at different plants every seven years).

"We show up every day. We've got a vested and personal interest in reactor and nuclear safety. We're completely comfortable living near a nuclear power plant," he said.

"My biggest fear is when the roads get icy and I have to come to work."

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