Beyond Nuclear Backgrounder


Regarding the revelation that Entergy Nuclear had placed security guards on paid administrative leave for “fire inspection anomalies,” and Entergy’s claim that not only security -- but also fire protection -- duties are being adequately covered by “strong interim actions,” WWMT’s ITEAM investigative reporter, Cody Combs, reported:

“But over at Beyond Nuclear, a group critical of the Palisades plant, Kevin Kamps is skeptical, especially with so few details from Palisades.

“So the questions that are raised are, did security guards pretend to make their rounds and not really do it, and just fill out the paperwork like they had?” he asked.

The 45-year-old plant is no stranger to security investigations and violations. Kamps says both Palisades and the NRC need to be more forthcoming.

“There have been some major incidents at Palisades, that the NRC, to be frank, was complicit in helping to cover up,” Kamps said.

In response to the news story, Beyond Nuclear has prepared this backgrounder, to provide significant additional context, information, and documentation.

FIRE RISKS AT PALISADES

Regarding security and fire risks at Palisades, the security guards, and certainly the whistleblowers, should not be blamed nor scapegoated. Instead, Entergy Nuclear, and the U.S. Nuclear Regulatory Commission (NRC), must be held fully accountable.
Entergy is to blame, for not having implemented adequate security and fire protections at Palisades, since taking over the reactor nearly a decade ago. NRC – the federal agency paid and mandated to protect public health, safety, security, and the environment – is entirely responsible for letting this happen.

Beyond Nuclear’s Reactor Oversight Project director, Paul Gunter, co-authored a report in October 2008 entitled *Fire When Not Ready*. The report was about a primary threat of atomic reactor core meltdown – fire – and the unacceptable dereliction of duty by NRC to protect Americans from this known hazard. The report chronicles more than three decades of unaddressed fire risks at U.S. nuclear power plants, after the near-catastrophe at Browns Ferry, Alabama (a Fukushima Daiichi twin design) in 1975. Nearly a decade after the report’s publication, unacceptable fire risks continue to go unaddressed at U.S. atomic reactors, including Palisades. The report is posted online at:


As stated in the report: *The NRC knows the fire hazard is very real, estimating that the reactor meltdown risk from fire hazards is about 50%, or roughly equal to the meltdown risk from ALL other hazards, combined. And that risk assessment assumes the plants are in complete compliance with fire protection regulations.*

But Palisades was not in compliance with NRC’s fire protection regulations, for decades on end. Apparently, even now, it still is not, as revealed by the WWMT investigative report, based on whistleblower revelations.

NRC allowed Palisades to operate for decades, with inadequate fire protections in place. It appears NRC is still allowing Palisades’ operation with dubious safeguards in place against fire.

As *Fire When Not Ready* put it, the ad hoc, inadequate fire protections at Palisades that NRC has allowed were like driving, for decades on end, on an emergency tire after having a flat. Emergency tires aren’t meant to drive on for more than a short distance, until an actual replacement tire can be installed. Yet, NRC allowed Palisades to operate for decades with inadequate fire protections in place. It seems that is still the case.

In fact, the previous owner of Palisades, Consumers Energy/CMS, cited “Increasing NRC...fire protection requirements,” in testimony to the Michigan Public Service Commission (MPSC) in spring 2006, as a reason it was selling Palisades to Entergy. Consumers Energy argued it lacked the economy of scale, the expertise, and the funding to make such safety upgrades, but that Entergy Nuclear, a much bigger and more experienced company, with more resources, could -- and would -- do so. The MPSC bought such arguments – hook, line, and sinker -- and approved the sale.

(MPSC also approved a very generous Power Purchase Agreement – one of the highest known -- between Entergy and Consumers Energy, for every watt of electricity generated
at Palisades from 2007 to 2022, at exorbitant ratepayer expense. MPSC also approved a $316 million raid of the ratepayer-funded Palisades decommissioning fund, so Entergy and Consumers Energy could pad their pockets, as a sort of bonus to celebrate the sale of Palisades -- at the cost of ultimate clean up of the radioactively contaminated site).

See the relevant spring 2006 Consumers Energy Power Point presentation slide to the MPSC, posted online at:

http://www.nirs.org/reactorwatch/licensing/pg2.jpg

But Entergy Nuclear, despite Consumers Energy’s assurances to the MPSC, took its sweet time in addressing NRC’s supposed increased fire protection requirements.

Beyond Nuclear’s Paul Gunter, who has watch-dogged the risks of fire at nuclear power plants at the national level since 1991, has documented that:

*Palisades was included in Consumers Energy’s 2006 intent to transition from prescriptive fire protection regulations, under NRC’s Title 10 Code of Federal Regulations, Part 50.48 and Appendix R, to the performance-based, risk-informed fire protection standards, authorized under National Fire Protection Association 805 (NFPA 805), which allows for switching out things like UL* rated operable fire barrier systems for fire modeling and risk analysis.*

*Palisades’ license amendment request application was filed December 12, 2012.*

*NRC approved the license amendment on February 27, 2015, stipulating that “There is reasonable assurance (i) that the activities authorized by the amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with Commission regulations.”*

*From what’s been reported, it may well be that Entergy not only violated the terms of its license by endangering public safety, they may have violated 10 CFR 50.9 for completeness and accuracy of safety inspections, in fire watch reports. No doubt Entergy would distance itself from contract workers who falsified reports.*

*An investigation is warranted to find out who at Entergy knew what, when, and what did they do about it. (emphasis added)*

[*As stated at its own website: UL is a global independent safety science company with more than a century of expertise innovating safety solutions from the public adoption of electricity to new breakthroughs in sustainability, renewable energy and nanotechnology. Dedicated to promoting safe living and working environments, UL helps safeguard people, products and places in important ways, facilitating trade and providing peace of mind. See: http://www.ul.com/aboutul/]
Of course, Entergy and NRC are ultimately responsible for what happens, or doesn’t happen (such as fire protection), at Palisades.

As documented above, it took Entergy more than five years after taking over control at Palisades, to even apply for regulatory relief regarding unmet fire protection standards. NRC then consummated the regulatory retreat, by rubber-stamping Entergy’s application more than two years later. But given the current news revelations, it appears that, a decade after Consumers Energy’s presentation to the MPSC, fire protections at Palisades are still in disarray.

As if Palisades’ security guards didn’t already have enough to do, like guard against terrorist attacks, Entergy requires them to make “fire tours,” to walk the plant to check for fires. And if discovered, probably to take some initial action to fight the fire, before on-site -- or off-site -- firefighters can arrive. Initial response would be important, before the fire spread to safety-critical systems, structures, or components (SSCs).

But the elephant in the room is, why does Entergy burden its security guards with so much added responsibility, to do “fire tours” in the first place? Why hasn't Entergy invested in fire detection equipment, automatic fire suppression equipment, and UL rated fire retarding infrastructure (fire resistant barriers), spacing between fire-vulnerable SSCs, removal of combustible materials, etc., since taking over at Palisades in 2007? Why hasn't NRC required it, 41 years after Browns Ferry’s near catastrophe in 1975, which happened just four years after Palisades first fired up, in 1971?

SECURITY RISKS AT PALISADES

In addition to risks of fire, there is a long and growing list of security breakdowns and breaches at Palisades. On August 22, 2014, Beyond Nuclear published a backgrounder entitled “PALISADES’ AND ENTERGY’S CHRONIC SECURITY FAILURES,” after three security guard whistleblowers spoke out publicly at that summer’s NRC annual performance review public meeting in South Haven, with their attorney, DC-based Billie Pirner Garde, speaking out as well, via telephone.

Initial news coverage, and additional information, about the Palisades security guard whistleblowers initially speaking out is posted online at:


A link to the backgrounder mentioned above, and updates, are posted at:


As the backgrounder documented, Entergy’s security failures aren’t just limited to Palisades -- they even extend to Indian Point, NY, just 30 miles from midtown
Manhattan. 20+ million people live/work within a 50-mile radius of Entergy’s two Indian Point reactors, located on the bank of the Hudson River.

Post-9/11, Ed Lyman at Union of Concerned Scientists warned, in a 2004 report entitled *Chernobyl on the Hudson?*, that a successful terrorist attack at Indian Point could result in up to: 44,000 acute radiation poisoning deaths; 518,000 latent cancer fatalities; and $1 trillion (yes, with a T) in property damage -- depending on which way the wind was blowing. Lyman utilized a NRC and national nuclear lab report, and related computer code, known as CRAC-2, to calculate those casualty and property damage figures.


Since 2014, some updates on security guard issues at Palisades have included: the U.S. Department of Labor ruling in favor of the two security guard supervisor whistleblowers at Palisades, ordering Entergy to restore their jobs, with back pay; NRC disagreeing with the Dept. of Labor's ruling, thereby throwing the whistleblowers’ fate into limbo; and NRC talking a tough line for a short time, later in 2014, only to reverse itself, and say that the safety culture in Palisades’ security department is just fine now, all better.

Obviously, that was never true, as these current revelations have now made clear, yet again.

(Another update is that courts in multiple states have ordered Entergy to pay security guards back pay for overtime. The payments are many long years overdue, and involve large numbers of employees.)

In short, NRC has whitewashed Palisades’ security shortcomings, and excused Entergy for harassing, intimidating, retaliating against, and ultimately firing security guards and security supervisors, for simply doing their jobs -- calling attention to serious safety and security problems at Palisades.

The NRC commissioned, Sandia National Lab performed CRAC-2 report (“Calculation of Reactor Accident Consequences,” or CRAC-2, is the most commonly used name for this report, but it is also referred to as the 1982 Sandia Siting Study, or, officially, “Technical Guidance for Siting Criteria Development,” or NUREG/CR-2239), revealed the following casualty figures for a large-scale radioactivity release at Palisades, due to a reactor disaster:

1,000 peak early fatalities (acute radiation poisoning deaths);

7,000 peak early injuries;

10,000 peak (latent) cancer deaths;
$52.6 billion in property damage (in 1982 dollar figures; adjusted for inflation, that would be $130 billion in year 2015 dollar figures).

But CRAC-2 was also based on 1970 U.S. Census figures. As AP investigative reporter, Jeff Donn, reported in June, 2011, populations have soared around U.S. reactors in the past four (and a half) decades, so those casualty figures for Palisades are now significantly underestimated.

And Lyman’s report, and CRAC-2, also refer to reactor disaster radioactivity releases. At least Palisades’ reactor is within a containment structure -- although Fukushima showed containments can be damaged or destroyed, and still release catastrophic amounts of hazardous radioactivity.

But as came very close to happening at Fukushima, a high-level radioactive waste storage pool fire at Palisades would be an order of magnitude, or more, worse than a reactor disaster. The storage pool is not located in a containment structure, despite holding significantly more irradiated nuclear fuel than the operating reactor itself. This is yet another devilish detail NRC seems to Not Really Care about.

The U.S. National Academies of Science just reported on this near-miss at Fukushima, and its implication for high-level radioactive waste storage pool fire risks in the U.S. This was followed in short order by a Princeton University study, showing a pool fire could severely radioactively contaminate a very large region of the U.S. See:


Inadequate security, and inadequate fire protections, at Palisades don’t only apply to the reactor, they also apply to the even more dangerous, and even more vulnerable, storage pool.

WHERE IS CONGRESS?

NRC’s dereliction of duty reflects very badly on the U.S. government’s executive branch. But where is the legislative branch?

Not only has NRC has done nothing about the security and fire protection inadequacies at Palisades, but the same is true of U.S. Representative Fred Upton (R-MI-6th District). Despite Upton’s claim in 2013 that it’s not his job to look over NRC’s shoulder,* it actually is. Upton has long served as Chairman of the powerful U.S. House Energy & Commerce Committee, with direct and primary oversight responsibility on NRC, and nuclear power safety.

[*Upton made this statement in response to a Michigan Radio reporter’s question, during a press conference held at Palisades, after Upton made an emergency tour of the plant, after 82 gallons of radioactive water leaked into Lake Michigan. See:
But then again, there are two, contradictory definitions of “oversight”:

1. an unintentional failure to notice or do something.
2. the action of overseeing something.

It seems Upton, and NRC, embrace the former, not the latter!

Such collusion, between Upton, NRC, and Entergy at Palisades, is the very root cause of the Fukushima Daiichi nuclear catastrophe. As concluded by the Japanese Parliament after a year-long independent investigation, the root cause was determined to be collusion between regulator, industry, and government officials. It is why the three reactors were so catastrophically vulnerable to the natural disasters that hit them on 3/11/11. Such collusion exists in spades at Palisades. Downwinders are in great peril, and living on borrowed time.

In contrast, U.S. Rep. John Dingell (D-Southeast MI), who chaired the same U.S. House Energy & Commerce Committee over multiple congresses, was central in exposing the fire risk-related Thermo-Lag scam in oversight hearings in the early 1990s. Dingell helped expose the exorbitantly expensive -- and combustible -- fire barrier systems, wrapped around electrical systems essential for safe shutdown. (See the report Fire When Not Ready, mentioned above, for more information about the Thermo-Lag scandal.)

A lot of the nuclear power industry fire watches are indefinitely in place, as inoperable fire barriers were removed, but never replaced, based on an assessment of the probability of a fire. Thus, despite Dingell’s revelations a quarter-century ago, fire protection at U.S. atomic reactors remains woefully inadequate, due to NRC complicity with industry short cuts on safety.

So what is Upton’s excuse? He has an entirely laissez-faire philosophy towards the nuclear power industry, including the three reactors (Palisades, Cook 1 & 2) in his own district.

Beyond Nuclear has published a number of exposés on Upton’s collusion with the nuclear power industry, including:

- Fred Upton, One of the Nuclear Industry’s Best Friends in Congress
  22 page report, with citations, 2008, posted online at:
  _june_2008.pdf?token=Z2%2B6BcRCvVf8M0IJU1kC7Ay9HMI%3D

- Fred Upton, One of the Nuclear Industry's Best Friends in Congress
  2 page summary, updated 10/10/10, posted online at:
CONCLUSION

45 years of fire and security risks at Palisades is enough. Palisades must be shutdown, before it melts down.

As UBS has repeatedly advised*, Entergy should announce Palisades’ closure by autumn, 2016, and should retire the reactor by spring, 2017 at the latest.

[*See: http://www.beyondnuclear.org/nuclear-costs/, including entries dated: June 29, June 23, June 10, May 17, May 12, and April 22 (all 2016 entries, arranged in reverse chronological order, as indicated). Also see Dr. Mark Cooper’s July 2013 report, “Renaissance in Reverse: Competition Pushes Aging U.S. Nuclear Reactors to the Brink of Economic Abandonment,” posted online at http://216.30.191.148/atriskreactors.html. The report again predicted that Palisades was at near-term risk of permanent shutdown.]

However, even after the Palisades’ reactor is closed and defueled, fire and security risks will go on, in not only the “wet” storage pool for high-level radioactive wastes, but also in the on-site dry cask storage. The pool should be emptied, as soon as possible, into Hardened On-Site Storage (HOSS) dry casks (see: http://ieer.org/wp/wp-content/uploads/2010/03/HOSS_PRINCIPLES_3-23-10x.pdf).

The collusion between Entergy, NRC, and U.S. Rep. Upton must end, before a Fukushima-like catastrophe occurs at Palisades. A large-scale release of hazardous radioactivity at Palisades would imperil Lake Michigan, and the entire Great Lakes downstream and downwind, drinking water supply for 40 million people across eight states, two provinces, and a large number of Native American First Nations.

For more information, contact Beyond Nuclear’s Radioactive Waste Watchdog, Kevin Kamps, at kevin@beyondnuclear.org or (240) 462-3216.

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