

Rulemaking1CEm Resource

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TITLE: Regulatory Improvements for Decommissioning Power Reactors

COMMENT#: 119

From: Diane Turco [mailto:tturco@comcast.net]
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Subject: [External_Sender] Comments on behalf of Cape Downwinders for Docket ID NRC-2015-0070

Please accept the attached comments on the Advanced Notice of Proposed Rulemaking regarding Decommissioning of Nuclear Facilities, Docket ID NRC-2015-0070 submitted on behalf of Cape Downwinders, Cape Cod, MA. Diane Turco, Director, Cape Downwinders



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March 18, 2016

Nuclear Regulatory Commission
Secretary, U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
Attn: Rulemaking and Adjudications Staff

Re: Advanced Notice of Proposed Rulemaking; Regulatory Improvements for
Decommissioning Power Plants (Docket ID NRC-2015-0070)

CAPE DOWNWINDERS COMMENTS NRC-2015-0070

Cape Downwinders is a non-profit citizens' community organization working to protect the public health and safety from the dangers posed by the continued operation and subsequent decommissioning of the troubled and degrading Pilgrim Nuclear Power Station in Plymouth, MA. Our work includes public education programs, regulatory involvement through 2.206 petitions, forums, rallies and marches, legislative work, and outreach. We are also affiliated with other nuclear watchdog citizens' groups throughout the state of Massachusetts and national organizations.

These comments reflect our serious concerns that the NRC is planning to codify exemptions for the nuclear industry that do not reflect the best interest for the public. Senator Ed Markey and the Massachusetts congressional delegation share our concerns.¹ Most of the issues regarding public safety and security being addressed have already been brought to the attention of the NRC through the public petition 2.206 process. These petitions have been summarily dismissed, a dismal record of the NRC ignoring public and elected officials' concerns. It is our intent to continue to provide public input and pressure on these serious matters which impact our daily lives. With a mandate to ensure public health and safety, if the implemented exemptions become rules, the NRC will once again abdicate its responsibility to the public and bow to the needs of the industry. Risks will remain when a reactor is shut down. Will the NRC follow its mandate to ensure public health and safety or will the industry needs prevail?

A. **Emergency Planning:**

The NRC has already set precedent by exempting closed nuclear reactors from maintaining off site emergency plans, effectively canceling the 10 mile EPZ at the request of reactor owners when production of electricity ceases. This action calls into question the serious lack of understanding the NRC has regarding the ongoing dangers to the public posed by tightly racked and densely packed spent fuel pools. The NRC must have regulatory statutes that define the clear mandate for public safety for decommissioned reactors with relation to SFP.

¹ <http://www.markey.senate.gov/imo/media/doc/10-13-15MAlettertoNRCPilgrim.pdf>

In fact, your own guidance to respond for the rulemaking clearly contradicts the dangers by stating:

Generally, a few months after the reactor has been permanently shut down, there are no possible design-basis events that could result in a radiological release exceeding the limits established by the U.S. Environmental Protection Agency's (EPA) early-phase Protective Action Guidelines of 1 roentgen equivalent man at the exclusion area boundary.

Then your guidance incredulously concludes, "The only accident that might lead to a significant radiological release at a decommissioning reactor is a zirconium fire". There you acknowledge 'THERE COULD BE A 'SIGNIFICANT RADIOLOGICAL RELEASE'. This statement underscores the fact that ongoing emergency planning zones are necessary to protect the public.

The NRC needs to seriously consider and acknowledge acts of malice, degrading conditions, severe weather related events, cyber attacks, and loss of offsite power as possible accident scenarios. Transfer of assemblies presents another ongoing threat. Accidents with nuclear fuel are certainly within the realm of possibility given evidence of three 'near misses' at decommissioned facilities.

Cyber attacks on the grid and other high value targets pose a clear and present danger which will only escalate. What are the consequences of a cyber attack on the cooling systems and instrumentation of a spent fuel pool where over a million pounds of toxic fuel is stored? Pilgrim Nuclear is now not fully compliant with existing NRC cyber requirements guidelines. Will the spent fuel pool meet cyber requirements for cooling instrumentation upon closure? Will the decommissioning process insure cyber security provisions and resources to afford cyber protection over the ensuing decades, in the event Entergy does not quickly convert fuel storage to dry casks? As a grim reminder, South Korea in March 2015, blamed North Korea for the cyber attack on the Korea Hydro and Nuclear Power Plant. North Korea daily vents strategic attack threats against the USA.

Many studies have concluded real risks which suggest increasing the emergency planning zones due to spent fuel pool dangers.² When removing spent fuel from the reactor fuel pool, a drop can occur and could escalate with offsite release. Many studies have concluded that the results of a spent fuel pool fire would be catastrophic.³ Please read the Cape Downwinders' testimony to the Joint Committee on Public Safety and Homeland Security identifying the dangers and need for increased emergency planning, particularly for Cape Codders who have no escape due to the unique geographical restrictions of Cape Cod and The Islands.⁴ We will certainly continue to be at risk until the spent fuel is removed to safer dry casks, and even then, the risk is reduced but not eliminated until all the waste is removed from the site.

The NRC incorrectly assumes there would be a minimum of 10 hours for implementation of mitigative actions taken by offsite emergency authorities or the licensee by using an 'all hazards plans'. Radiological emergency planning has been regulated due to the fact of the unique properties and dangers of a nuclear accident. An 'all hazards plans' here on the Cape might direct us to travel over the two bridges which connect us to the mainland, clearly in

² <http://pbadupws.nrc.gov/docs/ML1209/ML12094A181.pdf>

³ <http://pbadupws.nrc.gov/docs/ML1112/ML111220356.pdf>

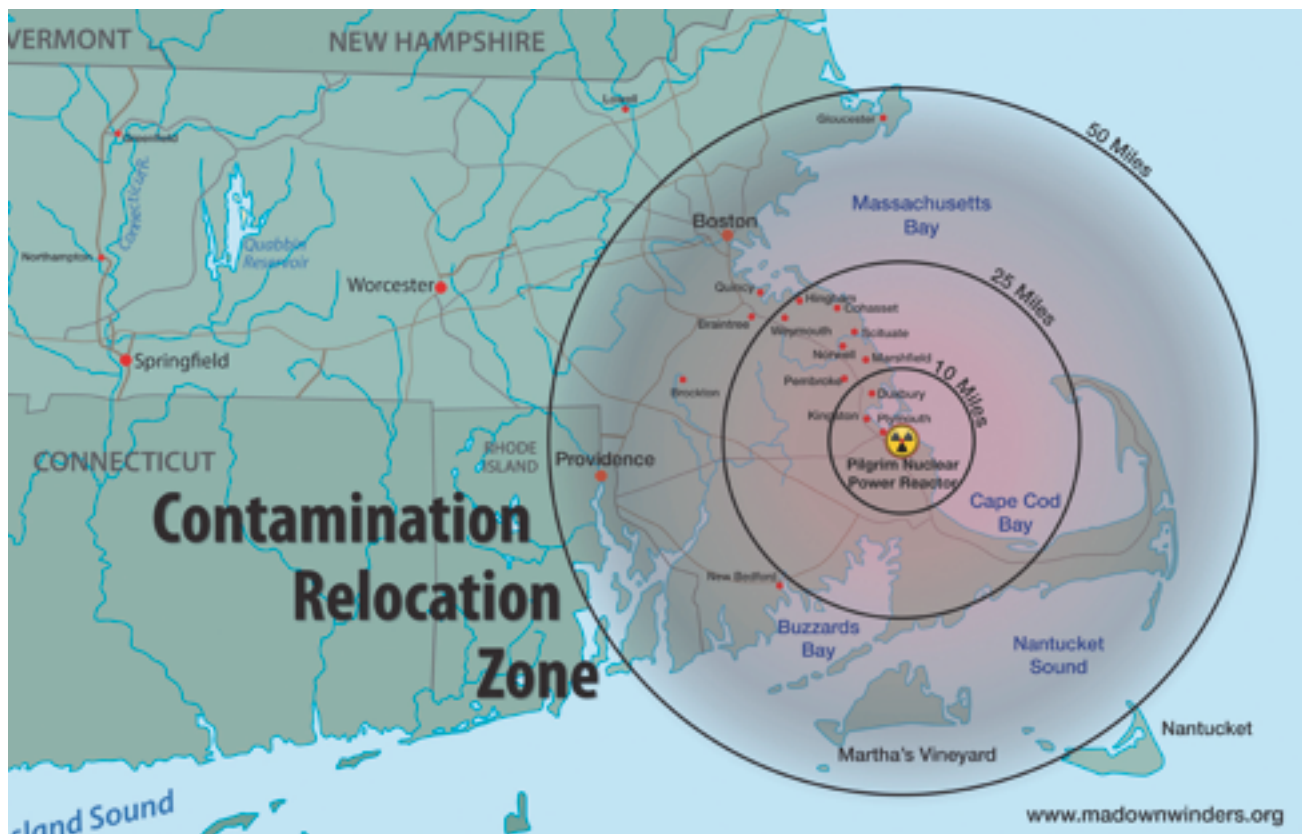
⁴ http://media.wix.com/ugd/f7815f_17aa724343bf44f48924dd848cb5dd44.pdf

conflict with the current radiological plan to close the bridges allowing evacuation of the Plymouth area. The Cape Cod All Hazards Plan calls for closing the bridges only when the wind exceeds 70 mph. Providing exemptions to the industry but still requiring classification and declaration of an emergency, assessing releases of radioactive materials, taking mitigative actions and requesting offsite assistance without a plan is irresponsible. How can there be an expectation of these mitigating actions without a plan to implement? How can emergency management professionals agree to this type of incompetent planning with the actual implementation of radiological public safety action not part of the plan but ad hoc?

Emergency planning for a nuclear accident needs continue under the purview of the NRC with local and state input and approval to ensure public health and safety until the threat of exposure to the public is in effect by full fuel removal from the site.

As part of an effective plan, radiological monitoring must be enhanced to effectively monitor radiation releases in all directions. Currently at Pilgrim, the radiation monitoring stations are arranged in the shape of a horseshoe with the open end facing Easterly creating a blind spot that ignores a significant portion of Cape Cod that is within the Ingestion Pathway Zone.

Given the NRC has allowed 60 years for decommissioning, Entergy could store the densely packed and tightly racked spent fuel pool as is. There should be site specific plans to address this danger with community and stakeholder input.



1. Emergency plans need to continue to be funded, practiced, equipped, and administered until decommissioning is completed and all SNF is removed from the site to a federal repository.
2. Increase the EPZ to 50 miles for Plume Exposure.
3. Move all spent nuclear fuel stored in wet pools to dry cask storage immediately upon the cessation of electricity production operations.
4. Radiation monitoring stations should cover 360 degrees out to 50 miles.

5. Emergency Response Data Systems (ERDS) must be maintained.
6. Emergency responders and stakeholders within the 50 mile EPZ must be included in planning and approval of plans.

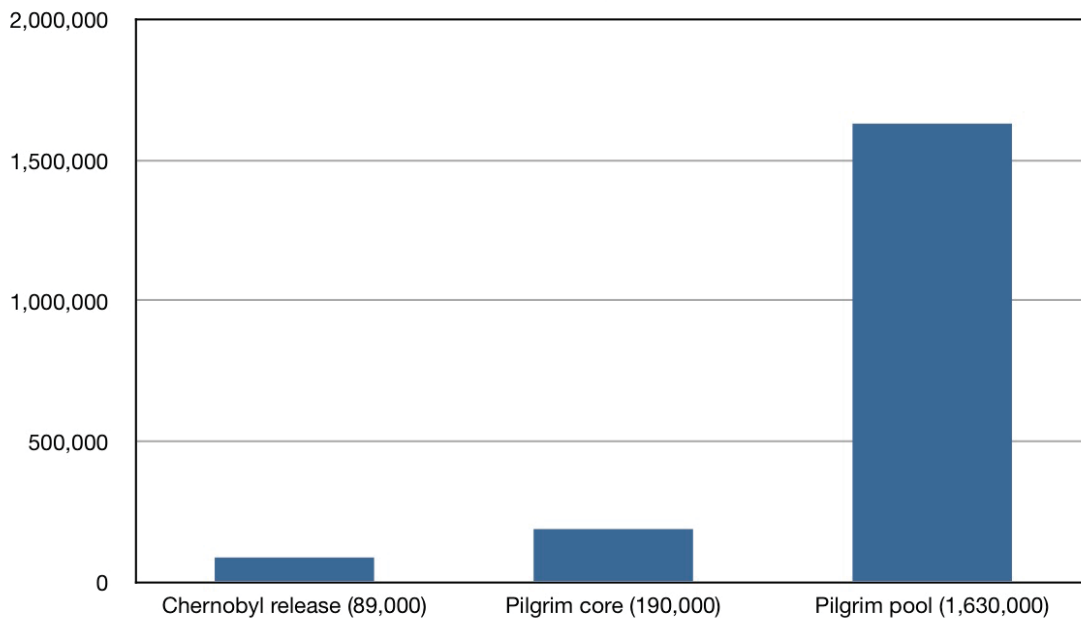
B. Physical Security

While the risk of a radiological accident from a core meltdown is basically eliminated when reactors cease producing electricity and fuel is removed from the core, the risk to the public from the spent fuel pool waste, transfer of assemblies, acts of malice, and staging of dry casks continues to present an imminent threat to public health and safety. Current security practices at Pilgrim have been called into account through the 2.206 process by Cape Downwinders and Pilgrim Watch. Please read attached for full 2.206 report and supporting documents. ⁵

Security must be enhanced to protect the spent fuel pool which, in reality, represents a potential weapon of mass destruction with catastrophic consequences. The 43 years of radioactive waste stored in a wet pool in the attic of the reactor building must be secured. Plymouth and other nuclear reactor sites are de facto nuclear waste dump sites, an unintended consequence of the inability of the federal government to safely dispose of the most dangerous manmade materials on the planet and the ongoing production of the waste with nowhere to go. The vulnerability of unprotected dry casks calls for increased security, not less.

The Design Basis Threat for radiological sabotage must apply to reactor sites during and after decommissioning and only end when all the spent fuel is removed from site. All the physical security requirements in 10 CFR part 73 must continue to be applicable. The risks to the public remain until the nuclear waste is removed from the site.

Comparison of Cesium 137 Inventories (TBq) at Pilgrim Nuclear in Plymouth, MA and Chernobyl



*MA AGO Report
Dr. Gordon Thompson, Institute for Resource and Security Studies, 'Risks and Risk Reducing Options Associated with Pool Storage of Spent Nuclear Fuel at the Pilgrim and Vermont Yankee Nuclear Power Plants: 25 May 2006

⁵ http://www.madownwinders.org/wp-content/uploads/2.206_Petition_Pilgrim_Security_PW-CD_2014Sep16.pdf

C. Fitness for Duty Requirements

The NRC must continue 10 CFR part 26 Fitness for Duty Requirements as the consequences of a spent fuel pool fire and vulnerability of the ISFSI remain long after the reactor core is emptied. In fact, recently, two employees at Pilgrim who failed drug testing were identified as 'unfit'.^{6 7} In order to protect the public, the current FFD requirements must be part of the decommissioning regulations until the nuclear waste is removed from the site.

E. Regulatory Approach

As we see in Vermont, Entergy chose the 60 years SAFSTOR plan so we expect the same for Pilgrim. Cape Downwinders considers that delaying decommissioning for up to 60 years is giving the nuclear industry a 'Get Out of Decommissioning' free card and is unacceptable. LLCs, reactor owners can walk away, leaving the State and taxpayers to pick up the tab for clean up as evidenced at Millstone in CT. The NRC should require immediate cleanup and restoration. Remove SAFSTOR and Entomb as decommissioning options for the nuclear industry that will, of course, use the most "cost effective" (i.e. cheap) approach and replace with a plan for safe and timely clean up and restoration.

The role of States and members of the public should be expanded and enhanced by giving stakeholders and local authorities from at least within the 50 mile EPZ an actual voice in the process through the formation of a Community Engagement Panel or other committee with capacity of effective input of best practices for a detailed decommissioning plan, not just the Post-Shutdown Decommissioning Activities Report (PSDAR) developed by the industry. The public should have recourse through adjudicatory hearings. The NRC should facilitate, not the licensee.

The NRC must require the industry to provide a more detailed and site specific PSDAR/plan. Including plans for waste storage and removal, emergency management plans, timelines for full decommissioning, and clean up standards, and along with additional information as requested by the community advisory panel. Community goals and input must be part of the full process. Approval of plans must include local and state officials.

The NRC must require licensees comply with all EPA and state regulations regarding liquid effluent discharges to bodies of water and any related environmental laws in order to protect our communities.

G. Decommissioning Trust Funds

Entergy has also applied for and received a waiver from the Nuclear Regulatory Commission to use decommissioning funds, federally mandated for decommissioning only, for the purposes of spent fuel storage and tax payments. According to your own regulations, decommissioning

⁶ <http://www.capecodtimes.com/article/20150730/NEWS/150739901>

⁷ <http://www.capecodtimes.com/article/20150804/NEWS/150809787>

funds are related to dismantling and site cleanup. However, as we see happening in Vermont, the NRC will allow the use of those funds to subsidize spent fuel storage and tax payments basically regulating by exemption. By providing exemptions for licensees to use decommissioning trust funds for other purposes unrelated to cleaning and site restoration, the NRC is violating its own regulations in support of the nuclear industry and their shareholders, not the public it is mandated to protect. The NRC should drop these exemptions immediately and not codify into regulations.

The NRC's regulatory posture toward the use of decommissioning funds undermines states' interests in ensuring a safe and timely decommissioning, and provides a subsidy to the nuclear industry at the expense of taxpayers and ratepayers. This is unacceptable. The licensee should be held accountable for all costs.

The NRC must recalculate decommissioning costs to reflect current real costs and require licensees and their parent companies to have fully funded decommissioning funds upon closure.

H. Liability

The requirements in 50.54(w)(1) should not distinguish between a reactor authorized to operate and a reactor that has permanently shut down and defueled because the risk to the public due to spent fuel storage and the ISFSI remains. In fact, the current liability is woefully underfunded. To encourage private investment in the nuclear industry, federal legislation known as the Price Anderson Act placed a limit on liability with an insurance pool of \$12 billion. In fact, homeowners and liability insurance policies have exemptions from nuclear accident coverage. With the estimated costs of a radiological accident already estimated at over 40 times the amount held by the industry, compensation for property loss becomes almost nonexistent.⁸

Other Comments:

The NRC requested public comments on Decommissioning Rulemaking . Your objective "was to clarify and remove certain regulations for decommissioning power reactors based on the reduction in radiological risk compared to operating reactors." This position is based on false assumptions about radiological safety understates the lack of understanding the NRC has regarding radiological risks which will continue to exist to the public in communities across the nation. The NRC is consideration of these changes highlights the ongoing problem of regulation based on industry influence on the NRC. The purpose of rulemaking is to develop exemptions and amendments streamlined into rules for licensees to reduce their costs and regulatory responsibility. This is unacceptable. Cape Downwinders does not support reducing emergency planning, liability, physical security, and Fitness for Duty requirements. The Decommissioning Trust Fund must be used for decommissioning purposes only. The entire process must be open and transparent with due process.

The NRC must support best practices for public health and safety as mandated by federal law. The NRC has an obligation to include State, local officials, and the public in the licensee's decommissioning planning process and implementation to ensure that public safety, environmental, and economic needs of our communities are met first and foremost.

⁸ <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/nuclear-insurance.pdf>

Cape Downwinders also supports the statements submitted by other organizations: Jones River Watershed Association, Citizens Awareness Network/Nuclear Information Resource Service, and Pilgrim Watch.

For Cape Downwinders and Steering Committee

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