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AUTHOR:	Mary Lampert		
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ADDRESSEE:	Nils Diaz		
SUBJECT:	Pilgrim Nuclear Power Station's Emergency Planning Zone..urges the Comm to overturn the denial of the 2.206 petition		
ACTION:	Signature of Secretary		
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SECY 017

SECY 06

PETITION TO U.S. NUCLEAR REGULATORY COMMISSION – APPEAL TO COMMISSIONERS TO OVERTURN DECISION BY PETITION REVIEW BOARD (PRB)

Submitted by Mary Elizabeth Lampert; on April 25, 2005; regarding issues enclosed herein concerning Pilgrim NPS, Plymouth, Massachusetts.

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Via email, original text by fax & mail.

April 25, 2005

Commissioner Nils J. Diaz
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Dear Mr. Chairman:

As you know Duxbury, Massachusetts is within the Pilgrim Nuclear Power Station's Emergency Planning Zone. My residence is approximately 6 miles across open water from the reactor. Therefore, safety at Pilgrim NPS is a primary concern due to its potential direct impact upon my family's health, property and community.

I request that this correspondence be regarded as a formal appeal to the Commissioners to overturn the April 1, 2005 decision by the NRC staff, Petition Review Board, to deny my 2.206 petition.

Basis Appeal – Summary

The original 2.206 petition asked NRC to require Pilgrim NPS to cease operations until proper notification equipment is installed throughout the Emergency Planning Zone to enable residents and transients to be notified in an emergency within the required approximate 15 minutes.

The appeal states that the NRC did not enforce its own regulations:

- 10 CFR 50.47 (b)(5), the emergency response plan must establish "means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone" (i.e., 10-mile EPZ).

- Section IV.D.3 of Appendix E provides a design objective pf having "The capability to essentially complete the initial notification of the public within the plume exposure pathway EPZ within about 15 minutes."

- NUREG-0654/FEMA-REP-1, Appendix 3, Section C.3, (c) provides standards for siren systems " Where special individual

cases require a higher alerting signal, it should be provided by other means than a generally distributed acoustic signal."

The petitioner explains that the sirens could not be heard (1) inside some houses and commercial buildings above normal ambient indoor noise under specified conditions (i.e., for example: when the windows are closed; air conditioners are on; dwelling are set back, insulated, landscaped; strong winds); and (2) inside vehicles under specified conditions. Therefore notification "should be required by other means than a generally distributed acoustic signal." Rapid dialing telephone systems and electronic message boards would satisfy the requirement. The petitioner also explains that NRC staff's petition denial failed to provide data/factual basis to substantiate their statements.

The original petition is followed by the petitioners response to points made in the PRB.

Original Petition – January 18, 2005

Summary

Reactor: Pilgrim Nuclear Power Station, Plymouth, Massachusetts

Request for Enforcement Action: Require Pilgrim NPS to cease operations until proper notification equipment is installed throughout the Emergency Planning Zone to enable residents and transients to be notified within the required approximate 15 minutes.

Facts that constitute the basis for taking this action: discussed herein.

Discussion

1. I am filing a 2.206 petition as the only means available to me to address safety concerns at Pilgrim Nuclear Power Station. The public warning system now does not provide reasonable assurance that in the event of an accident resulting in a large release of radiation the residents and transients within the EPZ will receive timely warning. Therefore Pilgrim Station is operating without a functional emergency response plan.

2. Pilgrim Nuclear Power Station public warning system cannot pass minimum standards of operability under 10 CFR 50, Appendix E, § (D), (E), and other applicable regulation. 10 CFR 50, Appendix E (D) states,

> The design objective of the prompt public notification system shall be to have the capability to essentially complete the initial notification of the public within the plume exposure pathway EPZ within about 15 minutes. The use of this notification capability will range from immediate notification (within 15 minutes of the time that State and local officials are notified that a situation exists requiring urgent action) to the more likely events where a more substantial amount of time.

3. Pilgrim Station has installed sirens in many areas in the Emergency Planning Zone. However, these are simply outdoor warning systems. This is because if they were loud enough to be heard indoors over normal ambient noise they would damage the hearing of those close to the sirens. I can attest to the fact that they can not be heard in doors from my own experience and from informally polling citizens in my community.

4. It is important to have an outdoor warning system; however it is equally important to have an indoor warning system for those who work, sleep and are inside residences or work places for all or any portion of the day. Additionally, Pilgrim's EPZ is located in a climate that is not conducive to having windows open all, or even most, of the year; and when it is warm enough to have a window ajar, many people and businesses now have air conditioners - meaning that windows are generally closed the entire year.

5. Also, Pilgrim's sirens have been unreliable. They failed 12 times from January 2000 to January 2004. For example, in January 2004, nearly 80 percent of the newly installed emergency sirens used to warn about 100,000 residents in five towns about a disaster at the Pilgrim Nuclear Power Station failed to operate. The latest siren failure came after a brand-new siren system was installed. Redundancy is an important component of safety; hence a combination of warning systems is required – and importantly, the systems must be audible both inside and outside – now they are not. Notification means that the intended recipient hears, receives, the message.

6. The present back-up system, known as route notification, calls for local police to drive up and down streets where sirens fail to warn residents over their PA system. Route notification takes considerably longer than 15 minutes. Route notification is a waste of now scarce human resources and will not accomplish the task – at best some folks who happen to be outside on streets that the local police happen to drive may receive notice. The towns within the Emergency Planning

Zone have large wooded areas; and areas with houses on large lots sited and landscaped to provide privacy and quiet - away from the street and traffic noise. Also the EPZ towns each have many miles of roads – Duxbury, for example, has 127.54 miles of roads[1]. Plymouth, the host community, and largest town in the Commonwealth, has 521 miles of roads[2]. . It is clear that:

- Local police and emergency personnel are not capable of covering roads in approximately 15 minutes – too many miles of roads, too few personnel;
- The PA systems or bullhorns on those vehicles are unlikely to be heard inside due to how property is sited, landscaped, insulated and the real uncertainty of whether windows will be open.

7. Technology exists today that would fill the current void and bring licensees into compliance – that is notify residents and transients inside houses or buildings. The system is generally known as rapid dialing systems and has been in use in many communities for many years. It is tested. Rapid dialing systems have the capability to notify workers and every household and business within the EPZ in approximate 15 minutes. For example, one company's (Dialogic Communications -DCC) phone bank has 500 phones capable of making 1,000 calls a minute, based on a 30 second transaction. Simply contracting to use two of their phone banks would permit contacting 30,000 households. More phone banks could be added, as required. Sigma Reverse 911 is another such system, many exist.

8. Another notification deficiency concerns notifying those in cars and trucks. We cannot assume that the driver has a radio on tuned to an Emergency Alert System. Sirens are not placed along our major highways, Route 3, for example; and even if they were so placed they could not be heard in a car above ambient sound.

9. Technology exists today to solve the problem – NRC requiring the installation of reader boards along the major routes within the Emergency Planning Zone. As an aside, reader or message boards are multi-purpose and can serve many purposes in an emergency.

10. Request for action: I request for the above stated reasons that until such time as Entergy, the licensee, has provided a workable

[1] Massachusetts Highway Road Census, 2001: Town of Duxbury Roads = 99.96 miles; Mass Highway Roads = 18.39 miles; Private Roads = 9.19 miles

[2] Town of Plymouth Engineering Dept, 01/18/05: total town, state, private roads = 521 miles

emergency warning or alert system and NRC has verified its operability, NRC order cold shutdown of Pilgrim Nuclear Power Station and/or take other such action as is within NRC's discretion to restore reasonable assurance of adequate protection of public health and safety.

I am aware that there is a four month period allowed for correction of emergency planning deficiencies in 10 CFR 50.54 (s) (2); however I request that this matter be given immediate attention because of the facts that nuclear reactors are terrorist targets; Pilgrim is located in "America's Hometown" perhaps making it an especially attractive target due to its symbolic value; Pilgrim is a BWR with a Mark I containment meaning that its spent fuel is stored high up in the main reactor building, outside primary containment, vulnerable from three sides; and Southeastern Massachusetts is now highly congested.

Response PRB, April 1, 2005 (Docket No. 50-293)

1. Petitioner statement:
"...warning sirens cannot be heard indoors and cannot be heard by citizens traveling in cars in the EPZ."

NRC response:

A.*NRC: "design objective of having the 'capability to essentially complete the initial notification...'*

Petitioner: The sirens can make the sound but the issue is that it *cannot be heard* inside. I am reminded of the question, "if a tree branch falls in the woods and no one is there to hear it, did it make a sound?" The issue in emergency planning, and intent of regulation, is that the public hears the sound so that they know that there is an emergency and how to respond.

B. *NRC: "the Commission recognized that not every individual would necessarily be reached by the actual operation of such a system under all conditions of system use, but that the provision of such a system would significantly improve the capability of taking protective actions..."*

Petitioner: How many individuals have to not hear the sirens to count; and in what geographic area and density? NRC does not explain. Did the Commission define, "under all conditions" mean to exclude those

indoors or in their vehicles? How does the Commission define "significantly improve" and more to the point on what basis? The Petitioner states that, based on community knowledge the sirens are not heard inside by those who should be alerted in a disaster. Every person counts.

C. *NRC: "An acceptable criteria at most locations would be a sound level from the siren system of 10 decibels above average daytime ambient background."*

Petitioner: How are "most locations" defined and on what basis? Many variables effect whether a noise can be heard --- and the presence/absence and combination of those variables varies from building-to-building and section-to section. For example: distance of building from siren; presence of water bodies and wind; construction of building – insulation; noise from heating and air-conditioning system; vegetation; set back; air and street traffic noise.

How is "average daytime ambient background" ascertained? It must be site specific – because it varies in each site. How did NRC determine what is average throughout Pilgrim's EPZ, how and when? No facts are provided. How was 10 decibels picked as the "magic number" – why not 9 or 15, for example?

Pilgrim's Public Relations representative stated publicly that the decibel level chosen was limited in volume to one that would not injure the hearing of those outside when the siren is sounded. However, that makes it too soft to be heard inside under some conditions stated.

D. *NRC: "The 10db differential above daytime ambient is meant to provide a distinguishable signal inside of average residential construction under average conditions."*

Petitioner: The petition states unequivocally that it does not –based on personal and local community experience. How is "average residential construction" determined? What about people inside commercial buildings --- do those people not count? Average implies a normal curve. Is NRC saying that those on either end of the curve do not deserve notification? They do not count.

What are "average conditions?" I had understood that planning planed for the best and the worst case scenarios. Is this not true? If for example there is a station blackout during a bad winter storm and a disaster results; because the wind and severe weather were not

"average conditions" then it is not necessary for the population to be notified. Hence the fact that they could not hear the sirens was inconsequential.

E. NRC: "c) *Where special individual cases require a higher alerting signal, it should be provided by other means than a generally distributed acoustic signal."*

Petitioner: Your own regulations make the petitioner's case, "Where special individual **cases require a higher alerting signal, it should be provided by other means than a generally distributed acoustic signal."** This does not say, nor was the regulation intended, to refer simply to those who are disabled –deaf. The petitioner is simply asking you to enforce your own regulations.

Individuals inside homes, businesses, buildings, vehicles require a higher alerting signal (they can not hear the sirens inside) it should be provided by other means than a generally distributed acoustic signal." Those means are available – rapid telephone dialing systems and electronic message boards.

Hence, the PRB incorrectly stated that "Your petition did not identify any special individual cases that require a higher alerting signal." Individuals were named individually and as a class.

2. The Petitioner stated that, "Pilgrim's sirens have been unreliable, failing 12 times from January 2000 to January 2004."

Petitioner: The NRC's response missed the point. The point was that redundancy is a key element in planning. Therefore technology that can contact the public, who are inside buildings, rapid telephone dialing systems or reverse 911, would be important if some or all of the sirens failed.

3. Petitioner stated that route notification may not accomplish the task in a timely manner."

NRC response, "Your assessment of the deficiencies of the route alerting process assumed failure of most, if not all, of the 112 sirens in the EPZ. The NRC and FEMA consider this to be an unlikely assumption."

Petitioner: It is <u>as unlikely</u> for the NRC to assume that many if not all will not fail. In fact, they have.

As pointed out in the original petition, in January 2004, nearly 80 percent of the newly installed emergency sirens used to warn about 100,000 residents in five towns about a disaster at the Pilgrim Nuclear Power Station failed to operate. Plymouth, as an example, has 521 miles of roads. In that instance, which may or may not be repeated, roughly 400 miles of roads might have to be covered by route alerting.

Bottom line, NRC has to plan for both the best and worst case scenarios. Responsibility can not again be brushed aside by the NRC by simply describing an event that NRC does not want to deal with as "unlikely."

Last route alerting is a "fool's errand." This is because:

- There are too many miles of roads, too few personnel;
- The PA systems or bullhorns on those vehicles are unlikely to be heard inside due to how property is sited, landscaped, insulated and the real uncertainty of whether windows will be open.

Let's allow 2005 technology, rapid telephone systems (reverse 911) do what it can do best and free up actual emergency personnel to do what only they can do.

4. The PRB does not refute the petitioner's charge that sirens can not be heard by motorists traveling within the EPZ because of the absence of sirens in areas along major routes; and because they could not be heard inside vehicles above ambient background sound even if sirens were there. Because this contention is not disputed, please describe the agency's plan for mitigation. I would expect that it would include requiring additional message boards on major evacuation routes and providing portable electronic message boards to EPZ communities.

Conclusion

Your own regulations make the petitioner's case, "Where special individual **cases require a higher alerting signal, it should be provided by other means than a generally distributed acoustic signal.**" The petitioner simply asks NRC to enforce your own regulations.

The NRC has a very serious credibility problem –of your own making. The most recent, and very public, example was your response to the

National Academy of *Science Safety and Security of Commercial Spent Nuclear Fuel Storage Report.*

The PRB's rebuttal of this petition is foolish on its face and further harms the agency and industry.

It is abundantly clear that rapid notification of the public is one of the key elements in emergency planning ---any emergency. This is especially true for a nuclear disaster because of the publics' real fear of radiation ---thereby increasing the chance of a panic response. Also there is an increased probability of an accident due to the very real threat of a terrorist attack --- an accident that is both fast breaking and of considerable consequence. Pilgrim is a GE Mark I Boiling Water Reactor making its spent fuel pool more vulnerable. We know that NRC accepts responsibility for dealing with the consequences of an attack – that would include emergency planning under such circumstances.

If there is a disaster, the public must be able to hear the warning. Sirens are outdoor warning systems –perhaps the best we had in the past. But technology today allows us to do better –rapid dialing systems are available and tested.

Homeland Security monies are being distributed and, although financing an alert system that really works is not our responsibility, it is worth considering asking Homeland Security to enter into a partnership – so that all or some of the cost of a rapid dialing system and electronic message boards for the EPZ could be covered under that umbrella. Both of those alert systems are multi-purpose.

NRC, your agency, is the problem –the roadblock to protecting public safety. NRC denies the problem; does not require sirens to be supplemented by rapid dialing systems and message boards for roadways; and is so doing abdicates its responsibility to protect the public and increases the public's disrespect for the agency.

I look forward to your response; and thank you for your consideration.

Sincerely,

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Joining the Petitioner

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