

EDO Principal Correspondence Control

FROM: DUE: 08/04/04

EDO CONTROL: G20040436  
DOC DT: 06/25/04  
FINAL REPLY:

Mary Lampert  
Massachusetts Citizens for Safe Energy

TO:

Chairman Diaz

FOR SIGNATURE OF :

\*\* GRN \*\*

CRC NO: 04-0408

Dyer, NRR

DESC:

ROUTING:

2.206 Petition Seabrook NPS and Pilgrim NPS

Reyes  
Norry  
Virgilio  
Kane  
Collins  
Dean  
Burns/Cyr  
Skay, NRR  
Goldberg, OGC  
Miller, RI

DATE: 06/30/04

ASSIGNED TO:

CONTACT:

NRR

Dyer

SPECIAL INSTRUCTIONS OR REMARKS:

Templak: SEC4-017

E. RIDS: SEC4-01



## **PETITION TO U.S. NUCLEAR REGULATORY COMMISSION**

**Submitted by Sandra Gavutis and Deborah Grinnell,  
C-10 Education and Research Foundation, and Mary  
Elizabeth Lampert, Pilgrim Watch, on behalf undersigned;  
on June 25, 2004; regarding issues enclosed herein  
concerning Seabrook NPS and Pilgrim NPS.**

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By email, original text by mail.

June 25, 2004

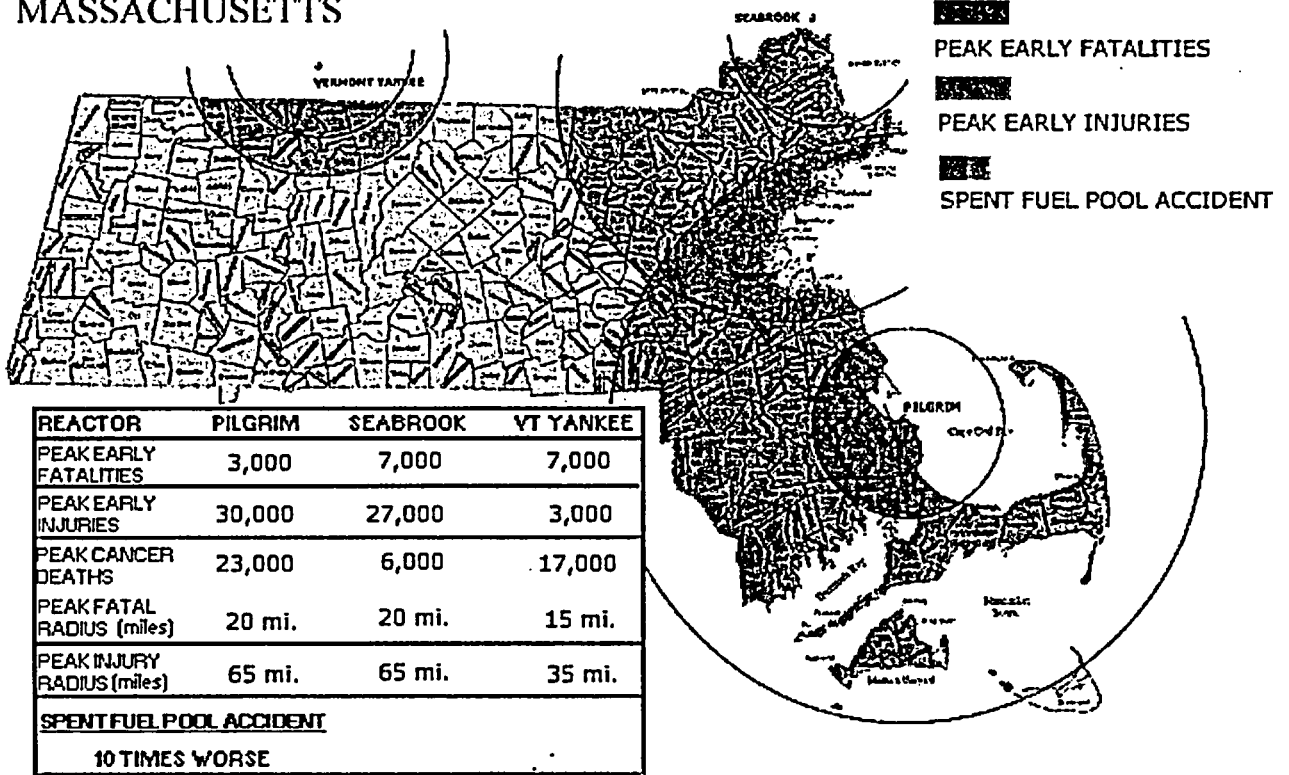
Commissioner Nils Diaz  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Chairman:

Due to the known increased threat of terrorism posed by the 2004 Democratic Convention in Boston [July 26-29, 2004] and the known consequences of a disaster at either Seabrook NPS or Pilgrim NPS the undersigned all have a direct interest in this petition.

### Consequences of an Accident or Terrorist Attack

#### MASSACHUSETTS



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END=JUN-30 12:57

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## **CORE MELT – CONSEQUENCES**

### **Calculation of Reactor Accident Consequences U.S. Nuclear Power Plants (CRAC-2), Sandia National Laboratory, 1982.**

**Peak** refers to the highest calculated values – it does not mean worst case scenario. This is due to uncertainties in the meteorological modeling acknowledged by Sandia. The model only considered one year's worth of data and does not model for precipitation beyond a 30-mile radius. This is significant because the highest consequences are predicted to occur when a radioactive plume encounters rain over a densely populated area.

**Peak Early Fatalities** are deaths that result within the first year. The **red area** represents the zone for peak fatalities. This radius is the largest calculated distance from the plant at which early fatalities are expected to occur for a core melt.

**Peak Early Injuries** are radiation-induced injuries occurring in the first year that require hospitalization or other medical attention – such as sterility, thyroid nodules, vomiting and cataracts. The orange area represents the zone for peak early injuries. This radius is the largest calculated distance from the plant at which early injuries are expected to occur for a core melt.

**Peak Cancer Deaths** are predicted to occur over a lifetime. However, this is not the case with leukemia which is assumed to have occurred within the first 30 years following an accident.

**Spent Fuel Accident** - In the case of a spent fuel pool accident, **red, orange and yellow** areas would experience more than 10 times the radioactivity released in Chernobyl, and the consequences, 10 times worse!

We request that this correspondence be regarded, and treated as, a 2.206 petition.

### **Summary**

**Reactors:** Pilgrim Nuclear Power Station, Plymouth, Massachusetts; and, Seabrook Nuclear Power Station, Seabrook, New Hampshire

**Request for Enforcement Action:** Require Pilgrim NPS and Seabrook NPS to cease operations over a sufficient time period bracketing the 2004 Democratic National Convention in Boston, MA, July 26-29, 2004; place reactors on the highest alert status; increase security- special focus on protecting spent fuel.

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

## Discussion

We are filing a 2.206 petition as the only means available to us to address safety concerns presented over the heightened threat of terrorism during the 2004 Democratic National Convention.

### Threat – Established

Nuclear reactors are known terrorist targets.

The federal government has warned of increased threat of a terrorist attack during the 2004 Democratic National Convention. One can not assume that the threat pertains only to downtown Boston – an attack anywhere in the area would have the desired impact. In fact there are few other targets in the country with greater potential impact.

As you are aware, the Sandia National lab in their consequence analysis of a core melt at both Pilgrim NPS and Seabrook NPS stated that the 1<sup>st</sup> year peak fatal radius would be 20 miles and the 1<sup>st</sup> year peak injury radius would be 65 miles. A spent fuel pool disaster would result in far worse consequences due to the huge amount of radioactivity now stored in their densely-packed pools; and the pools are outside primary containment.

### Risk Reduced If Reactor Shut Down

For example, Dr. Edwin Lyman, physicist, Union of Concerned Scientists, stated that the risk of a core meltdown is considerably reduced within hours of the reactor being closed. He reasoned that it is easier to protect and monitor a reactor that is closed because it is less likely that safety systems could be compromised. A core melt can be triggered by cutting off-site power, destroying coolant intakes, sabotaging/destroying safety systems, destroying the control room, etc.

According to a preliminary analysis by Dr. Lyman of Indian Point after a shutdown of 20 days would greatly reduce the radioactive inventory in the core through half-life decay. Lessons learned can be readily transferred to Pilgrim NPS and Seabrook NPS. The number of fatalities from a core melt and breach of containment could be reduced by 80% and the number of long-term cancer deaths by 50%.

Simply throttling-back the reactor, powering down, would not suffice.

David Lochbaum, Union of Concerned Scientists, was asked to comment on this option. He stated that the throttle back vs. shutdown argument came up prior to Y2K. Several nuclear plants did indeed throttle back on December 31st as a precaution. Precautionary measures were justified then; and now, certainly is the time to take more stringent additional measures.

Throttling back increases the margin to respond to minor transients. For example, if a pump trips, the chances of the reactor staying online are higher if it happens at 80% power instead of at 100% power.

If the threat is terrorism, throttling back lowers the risk from that of the reactor at full power, but it is still significantly higher than the risk of a reactor that has been shut down awhile.

#### Ordering Additional Security

In addition to shutting down during this time period, we request that you order additional security. We want security focused, once the reactor is shut down, primarily on protecting the spent fuel. The spent fuel pools are densely packed, outside primary containment, and certainly more vulnerable to attack (softer targets) than the core. The consequence of a spent fuel pool disaster is many times greater than a core melt.

#### Precedent

As an anti-terrorism measure, the NRC ordered the 5-megawatt HEU reactor at Georgia Tech to be shut down, and the reactor was defueled in preparation for the 1996 Olympic Games in Atlanta, Georgia.

The NRC ordered a full shut down of a much smaller LEU reactor at the University of Utah for the duration of the 2002 Winter Olympic Games in Salt Lake City.

#### Conclusion


Therefore, to preserve public safety, and public confidence in NRC's ability and willingness to regulate in the public's interest, the undersigned request in this petition that both Pilgrim Nuclear Power Station and Seabrook Nuclear Power Station not be allowed to continue to operate over a sufficient time period bracketing the 2004 Democratic National Convention in Boston; place reactors on the highest alert status; increase security- special focus on protecting



spent fuel. Warnings of increased terrorist threat have been announced for that period. Hence, it is no time to take chances; indeed, with nuclear power, there is never any time for chances.

We look forward to prompt precautionary actions to protect public safety.

Sincerely,



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