

SAFE ENERGY

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Comments To the U.S. Nuclear Regulatory Commission on
NRC's New Regulatory Oversight Program,
Plymouth Public Meeting

August 30, 2000

Effective oversight of nuclear power plants is important because the consequences of mishaps can be catastrophic. Accidents can and do happen. More importantly no one can guarantee that there will not be an accident.

Oversight is more important now than any earlier period.

- Nuclear power plants have aged more rapidly than expected. See: NRC and Oak Ridge National laboratory Report "Boiling Water Reactor Internals Degradation Study NUREG/CR-5754, September, 1993; NRC/BWORG Meeting, "Core Shroud and Vessel Internals Concerns" Rockville MD, June 28, 1994, and Memos of the November 1994, Inspection of Oyster Creek, New Jersey BWR/NPS, NIRS Report.
- The electric market is deregulated in Massachusetts and other states with predicted safety consequences as industries' focus turns more to the bottom line under competition.
- The worldwide increase in threats of terrorism.

However, despite the need for better oversight, the new U.S. Nuclear Regulatory Commission's Regulatory Oversight Program does not assure that the NRC will be an effective regulator. The six most vulnerable parts of the new process are:

- the documented propensity of the NRC to overlook safety warnings;
- the cutback in NRC on-site inspections by NRC staff;
- the potential for "tweaking" listed Performance Indicators and omitting some important criteria as Performance Indicators

- risk informed oversight process not plant specific
- the role of the Nuclear Energy Institute (NEI), a nuclear industry lobbying group, in collating and scoring raw data for the NRC to determine plant "safety" status
- the lack of confidence in the new process expressed by NRC staff to the US Government Accounting Office - GAO Report 1/19/2000

I. Documented Propensity of the NRC to Overlook Safety Warnings

The *Union of Concerned Scientists*, *Public Citizen* and other public interest groups, the *US Government Accounting Office*, members of Congress and the media, such as *Time Magazine*, repeatedly have pointed out that the NRC has a history of overlooking safety warnings at nuclear power plants. A partial list of criticism of the lack of NRC oversight compiled by the *Union of Concerned Scientists* is attached.

Review of lack of NRC enforcement at Pilgrim NPS

- Pilgrim voluntarily shut down in 1987 and could not restart for almost three years. This indicated that NRC's oversight had seriously failed to allow things to go on for such a protracted period. Had the NRC been doing its job, the NRC would have shut them down long before and required fixing the many serious problems that had to be addressed during its prolonged shutdown.
- Since that time, life has not improved very much. Instead of enforcing regulations the NRC chose to issue Notices of Enforcement Discretion - whether the NRC "waives" the conditions of a license or simply chooses not to enforce them, the result is the same. Pilgrim had been issued at least (7) NOEDs or waivers since it went back on line in late 1989. This places Pilgrim in a ranking of 14th of the number of NOEDs issued in the nation.
- Next, the NRC limited the use of enforcement discretion and moved to deregulation - eliminating the rules. There is very little difference between non-enforcement and deregulation. Now, under the new policy, NRC has retained "flexibility" to set aside safety warnings and take no action.

Examples at Pilgrim of safety components allowed to operate outside of safety requirements:

- Substandard and/or Counterfeit parts: In 1987, the widespread use of counterfeit parts in the industry was identified. In 1990 the US GAO issued a report. Pilgrim was among the plants identified using parts that did not meet government standards - nuts, bolts, pipe fittings, circuit breakers, fuses. The use of counterfeit parts blows away the validity of NRC risk assessments and assurances of safety. Pilgrim and the NRC have chosen to ignore this issue.

- **RTV Silicone Fire Seals:** Combustible fire seals obviously are a public safety hazard. 106 of the nation's 109 plants, including Pilgrim, use these combustible seals. Instead of requiring that they be replaced, the NRC decided to remove the regulation that seals be non-combustible.
- **Faulty Water Level Indicators - the Condensate Pot:** The Condensate Pot measures how much water covers the fuel rods. Its designer, Paul Blanch, pointed out that it was flawed and the measurements were seriously off. He described a real fix. Pilgrim and the NRC chose not to fix the problem but instead to "train" workers to not believe what the gauge said but instead to juggle figures around to come up with an answer. This is not acceptable as demonstrated in November 8, 1993 when operator's inattentiveness to readings resulted in activation of the reactor protection system and emergency safety systems. Good thing that they worked and so much for "defense in depth."
- **Lack of Quality Assurance for Fuel Pool Cooling System during LOCA/LOOP.** In 1992, a study at Susquehanna concluded that there is a major meltdown risk that is generic to BWR's. Pilgrim is a BWR. The design flaw can occur in the event of an accident or loss of off-site power. Pilgrim is on the coast and loss of off-site power is a concern. Although there are back-up diesel generators to protect the reactor's cooling system if power is lost, there are no such backup diesel generators for a reactor's spent fuel pool. During a LOCA, the normal cooling system would be useless because it runs on electricity. Activating the backup manually would expose plant workers to fatal levels of radiation. The fix is expensive. The NRC has not required it. Public safety suffers.
- In fact, Pilgrim NPS with NRC's blessing is operating outside of its licensing requirements, requirements that assure the public that the plant will operate safely.

In summary, the oversight process defines what NRC actions should be taken when performance declines. But the NRC has retained "flexibility" to set aside safety warnings and take no action. Ignoring safety problems will cripple the oversight process- under either the old or new oversight plan. What will it take for the NRC to act to protect the public's interest as opposed to simply the industry's pocketbook? The oversight process is simply a road map. Unless carefully followed, it will do no good.

II. Cutback in NRC On-Site Inspections by NRC Staff - reliance on licensee self-reports

The NRC is considering reducing its baseline inspection effort by about 15%. If this cutback is made, the typical nuclear plant will receive only about 1,850 inspection hours each year instead of the approximately 2,200 inspection hours that plants currently receive (US NRC, NUREG-1649, "New NRC Reactor Inspection and Oversight Program," Revision 0, February 28, 1999). What are the exact figures for Pilgrim? This is a bad plan because aging plants require more not fewer inspections - especially in a

deregulated electric marketplace and under the beginning phases of a new oversight process.

III. Performance Indicators - Potential for "Tweaking" Listed Performance Indicators and omitting Some Important Criteria as Performance Indicators

Potential for "Tweaking" performance Indicators

- Adding "functionality/operability" as a caveat to the performance indicator:

The NRC hired Arthur Andersen to look at the assessment process. They recommended more objective performance indicators. The NRC has added more subjectivity by splitting hairs over functionality versus operability. Rather than track a failure, the new program will track safety system functional failures. This allows for subjectivity at the data collection level that will actually serve to mask performance problems. A scram should be a scram; a safety system failure should be a safety system failure; if a component/safety system does not meet technical specifications, it does not work - end of the story.

There is already evidence of industry manipulating this new indicator - manipulate data before it gets to the NRC Inspectors for their review. In testimony before the NRC's Pilot Program Evaluation Panel Meeting Proceedings, November 17, 1999, p.28 NRC staff stated that inspections found 10 Safety System Functional Failures that were not reported and most of them had to do with whether it was a "functional failure" or not.

In short, the NRC has allowed the industry to split hairs over the difference between functionality and operability by adding a caveat to the performance indicator. Instead of tracking safety system failures, the new program will track safety system "functional failures." It allows the industry to pencil away failures by using an ex-post facto justification based on risk insights that may or may not be accurate.

- Tracking the number of scrams or shutdowns

Formerly scrams included both manual and automatic. Manual scrams continue to be excluded under the new system. This allows the licensee to "beat the system" by shutting down manually before an automatic shut down sets in. Both types of scrams should be recorded to accurately judge performance.

Missing performance Indicators

- Lack of Economic Indicator:

Arthur Andersen also recommended that an economic indicator be added to the evaluations. Arthur Andersen noted that "the threat exists that nuclear utilities, in their desire to cut costs and increase competitiveness, will be forced to impair their

operational safety and increase risk" (Arthur Andersen, Study of NRC Senior Management Process, December 30, 1996, p.23). NRC has no such indicator and in fact no longer makes operation and maintenance (O&M) costs available to the public. O&M costs (staff and budget) at Pilgrim NPS have decreased over this decade both in anticipation of and as a result of electric utility deregulation.

Additional Comments on Specific Indicators

- Barrier Integrity to protect public exposure

Absent are indicators concerning fire protection and specific criteria for our now over-crowded spent fuel pools. We note that the spent fuel pool at Pilgrim is inside the reactor building and outside primary containment. It was designed to hold around 800 rods and currently far exceeds the designed capacity. As of the 5/99 outage, it was holding 2714 rods.

- Emergency Preparedness

The criteria include drill/exercise performance; the % of key members that participated in the drill; and the reliability of the alert notification system.

This falsely assumes that the drill/exercise in fact tests preparedness and assesses whether the licensee's preparedness meets federal requirements and guidance. Drills and exercises have been a sham designed to assure that Pilgrim NPS passes the test and all planning inadequacies remain masked.

Examples: A) Seasonal tests - Federal planning rules state that tests be rotated seasonally so that challenges that occur at different times of the year be tested. There has not been a test during the summer when holiday traffic is at its peak, children are out of school, camps are in session, beaches are crowded and pleasure boats crowd our bays. B) Signed contracts for transportation providers - Plans call for busses to transport our transportation dependent to Host Schools and Reception Centers. The bus company and driver contracts have not been signed/up-dated since the early 1990's for Duxbury/Marshfield. NRC's response was that, "You have contracts to sign." This of course misses the point that they are not signed. This is key to planning and should be tested. It has not.

- Radiation Safety, Occupational

The licensee performs monitoring without independent verification. There is no indication that NRC plans to independently test the accuracy of either the licensee's monitoring equipment or monitoring reports. Historically Pilgrim has demonstrated questionable reporting of radiological data. At the same time, NRC historically has not verified the accuracy of blatantly ludicrous reports. The same individuals are on staff at Pilgrim and remain in charge of radiation reports.

Pilgrim NPS historically has ranked near the bottom in the industry in worker exposure. It is a clear sign of management inattention.

Allowable doses should be reduced to match recent research of the dangers of low level radiation exposure.

- **Public Radiation Safety**

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- **Safeguards and Sabotage**

The recent terrorist threat at a reactor in Australia points to the significance of this cornerstone. Criteria include availability of PA equipment; the personnel screening program; and fitness for duty personnel reliability program.

Absent are performance scores on actual tests. The actual testing program should be increased to coincide with the increase in terrorism world-wide and results from these tests used to measure this cornerstone.

IV. RISK INFORMED OVERSIGHT PROCESS NOT PLANT SPECIFIC

The oversight process, dubbed as the overlook process, is supposed to be risk informed, ranking defects according to risk. There are at least two problems with this approach.

1. Risk assessment is not a "science." You may get numbers but it is guesswork, loaded with assumptions. What comes out depends upon the assumptions about what goes into the equation - garbage in, garbage out. For example, if the NRC assumes that certain back-up systems are operating according to technical specifications. You then factor into the equation a certain set of values; however, if, as we know, that the systems are not operating according to tech specs (or no one really knows whether they are or are not) the risk assessment is bogus.
2. Risks are not site specific. We understand that local NRC inspectors do not rank issues on a plant specific basis. In other words they will not say what is wrong, or potentially could be wrong, or is vulnerable at Pilgrim NPS. We need plant specific information.

V. ROLE OF THE NUCLEAR ENERGY INSTITUTE (NEI), A NUCLEAR INDUSTRY LOBBYING GROUP, IN COLLATING AND SCORING RAW DATA FOR THE NRC TO DETERMINE PLANT "SAFETY" STATUS

NEI will collate and score raw data from each plant to determine safety plant status. NEI is a nuclear lobbying group – the very group that was taken to task by the Advertising Ethics Committee of the National Better Business Bureau for NEI's less than truthful advertising on air pollution. This group will be performing the task of informing the NRC of the safe operating status of the nation's reactors – in their pre-digested form. It is reprehensible to allow a nuclear lobby group to be the conduit to the NRC of this kind of vital information. As a result of this alone, we have lost all faith in the credibility of this process.

VI. LACK OF CONFIDENCE IN THE NEW PROCESS EXPRESSED BY NRC STAFF TO THE US GOVERNMENT ACCOUNTING OFFICE - GAO REPORT 1/19/2000

It is not only ourselves that lack faith in the process, the NRC staff poiled by the US Government Accounting Office expressed similar opinion.

- 75% felt that industry groups had too much influence in implementing the new regulatory process; and
- 60% felt that it would reduce safety.

Conclusion

1. The NRC should not overlook safety warnings, redefine indicators used in its oversight process as it has with past performance indicators and not be "flexible" and set aside safety warnings and take no action. In short the NRC should regulate.
2. The NRC should increase not decrease on site inspection hours by NRC staff.
3. NRC should make performance indicators objective and plug loop holes. NRC should include in their safety cornerstone performance indicator list:
 - economic indicators;
 - scores on actual tests that really test emergency preparedness and the ability to safeguard against terrorist attacks;
 - test the accuracy of radiation monitoring equipment and the accuracy of reporting for occupational and public exposures; and
 - reduce allowable radiation exposure for the public and workers to coincide with current research on the health effects of low dose radiation exposure.
4. Risk informed decision making is bogus. It goes "beyond the pale" when it is not even site specific.
5. NRC has lost our confidence by allowing the nuclear lobby group, NEI, to play an

inappropriate and significant role in this oversight process. To use a hackneyed phrase, the "fox is guarding the chicken coop."

6. The GAO's survey indicating that the majority of the NRC staff surveyed did not have faith in the new process should be a wake up call.

Thank you for the opportunity to make comment on this issue of important safety concern, sincerely,

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Appendix 1

Partial Listing of Reports Critical of Past NRC Performance

United States General Accounting Office, "Nuclear Regulation: Strategy Needed to Regulate Safety Using Information on Risk," GAO/RCED-99-95, March 1999.

David A. Lochbaum, Union of Concerned Scientists, Presentation to NRC Commissioners, "Looking for Goldilocks: The NRC's Inspection, Assessment, and Enforcement Programs," January 20, 1999.

United States General Accounting Office, GAO/OCG-99-19, "Major Management Challenges and Program Risks: Nuclear Regulatory Commission," January 1999.

Ralph E. Beadle, Senior Vice President and Chief Nuclear Officer, Nuclear Energy Institute, to L. Joseph Callan, Executive Director for Operations, Nuclear Regulatory Commission, November 14, 1997.

David A. Lochbaum, Union of Concerned Scientists, to L. Joseph Callan, Executive Director for Operations, Nuclear Regulatory Commission, "Improvements to NRC Performance Assessment Processes," November 7, 1997.

Nuclear Energy Information Service, "Illinois' Radioactive Decay: An Assessment of Illinois' Nuclear Reactors and the Nuclear Regulatory Commission's Inability to Regulate Assertively," July 24, 1997.

Office of Inspector General, Nuclear Regulatory Commission, "NRC Staff Actions to Address North-east Utilities System (NU) 1991 Self-Assessments," Case No. 96-025, May 31, 1996.

Jim Riccio and Lisa Brooks, Public Citizen Critical Mass Energy Project, "Nuclear Lemons: An Assessment of America's Worst Commercial Nuclear Power Plants," 1996.

United States General Accounting Office, "Nuclear Regulation: Weaknesses in NRC's Inspection Program at a South Texas Nuclear Power Plant," GAO/RCEC-96-10, October 1995.

Office of the Inspector General, Nuclear Regulatory Commission, "OIG Review of NRC's Systematic Assessment of Licensee Performance Program (SALP)," OIG 87A-21, August 1989.

United States House of Representatives Committee on Interior and Insular Affairs Subcommittee on General Oversight and Investigations, "NRC Coziness with Industry — Nuclear Regulatory Commission Fails to Maintain Arm's Length Relationship with the Nuclear Industry," December 1987.

Nuclear Safety Oversight Committee, "The Assessment of Nuclear Safety Programs of the Nuclear Regulatory Commission," September 30, 1981.

The NRC's New Oversight Process

Appendix 2

Safety Cornerstone Performance Indicators

Initiating Events

- Unplanned reactor shutdowns
- Loss of normal reactor cooling system following unplanned shutdown
- Unplanned changes in reactor power level

Mitigating Systems

- Safety systems not available
- Safety system failures

Barrier Integrity

- Fuel tubing (or cladding) leak rate
- Reactor coolant system leak rate
- Reactor containment leak rate

Emergency Preparedness

- Emergency response organization performance in drills
- Readiness of emergency response organization
- Availability of notification system for area residents

Occupational Radiation Safety

- Compliance with regulations for controlling access to radiation areas
- Uncontrolled radiation exposures to workers greater than 10 percent of regulatory limit

Public Radiation Safety

- Gaseous or liquid releases requiring reporting under NRC regulations

Plant Security

- Security system equipment availability
- Personnel screening program performance
- Employee fitness-for-duty program effectiveness

Source: Nuclear Regulatory Commission, NUREG-1649 Rev. 1, May 1999

Appendix 3

Internet Information on the New NRC Oversight Process

Material on the new oversight process may be obtained at the following NRC Internet locations:

www.nrc.gov/NRR/OVERSIGHT/index.html (overview and links to other NRC materials)

www.nrc.gov/OPA/assessment.htm (summary report and links to other NRC materials)

www.nrc.gov/NRC/COMMISSION/SECYS/index.html (look for SECY-99-007A)

The Nuclear Energy Institute, the industry's trade group, has material on the new regulatory process available at www.nei.org/library/wp_arch.html.

Critical views regarding the NRC's plans can be obtained at Public Citizen's Critical Mass Energy Project website, www.citizen.org/CMEP/nuclearsafety/oversight.htm.

The NRC's New Oversight Process

PRESS RELEASE MCSE

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Nuclear Agency's New Monitoring Program Falls Short *Can You Teach an Old Dog New Tricks?*

The Nuclear Regulatory Commission (NRC) will explain their new program for assessing safety levels at nuclear power plants in a meeting in Plymouth on Wednesday, August 30, 7:00 at the John Carver Inn. The public may make comment and ask questions.

Public interest groups say that the new program needs to be beefed up but could make significant improvements. However, it does not assure that the NRC will become an effective regulator. Their testimony documents numerous examples of the NRC knowing about safety problems at the Pilgrim Nuclear Power Plant but being unwilling to make Pilgrim's owners fix them.

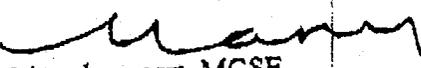
"The NRC has no teeth in its regulatory bite. They have acted like lap dogs of the nuclear industry instead of watch dogs," said Mary Lampert of Duxbury and *Massachusetts Citizens for Safe Energy*. David Lochbaum, nuclear safety engineer for Union of Concerned Scientists (UCS) who authored a detailed report on the new oversight program commented that, "The new program lacks the work necessary to correct that fundamental problem."

UCS and local public safety groups are particularly concerned about the NRC's plan to next year slash its inspection efforts at nuclear power plants by 15 percent. They recommended that instead of shortchanging public protection, the NRC should increase the productivity of its plant inspectors--who currently spend less than 30 percent of their time inspecting plants.

The NRC will be presented at the Plymouth meeting with a long list of studies performed by public interest groups, Congress, and the nuclear industry itself which all conclude that the NRC is an ineffective regulator. For example, a report released by the US General Accounting Office in January 1999 concluded, "NRC's oversight has been inadequate and slow."

"Putting an ineffective regulator behind the wheel of a new program is no more likely to work than moving a drunk driver from a Toyota to a BMW," said David Lochbaum, nuclear safety engineer for Union of Concerned Scientists. "Unless you cure the impairment, the vehicle makes little difference in the outcome."

Submitted by,


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