

Nuclear Safety Advisors

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December 8, 2004

Chairman Nils Diaz
USNRC
Washington DC 20005-0001
Via E-Mail

SUBJECT: Vermont Yankee Nuclear Power Station (VYNPS)

Dear Chairman Diaz:

Chairman Diaz, we respectfully request that you personally intervene in Entergy's application to increase Vermont Yankee's power to 120 percent of its original design. We are asking for your intervention to assure that by proper reconciliation of Vermont Yankee's design bases and applicable NRC regulation, your agency fulfills its Congressional mandate to protect public health and safety.

We note that in the recent report issued by the NRC¹ delineating its inspection of Vermont Yankee, the NRC fails to provide any assurance of regulatory compliance either now or when the plant operates at its proposed 120% power increase. Given the significant safety issues involved, this is a considerable risk and safety concern to all New Englanders, not just those residing within 50 miles of this aged nuclear power plant.

After completely reviewing the results of the final inspection report we conclude that the NRC has not and is not willing to address Vermont Yankee's regulatory compliance. Furthermore, the NRC's continued refusal to address Vermont Yankee's

¹ Letter from Wayne Lanning to Jay Thayer dated, December 2, 2004 "Vermont Yankee Nuclear Power Station NRC Inspection Report 05000271/2004008"

regulatory compliance leads us to believe that the agency is simply unable to do so. Therefore, we believe that the NRC is not even fully aware of the design and licensing bases of the plant, and furthermore, this fact is confirmed by recent communications as well as by your agency's lack of response to our July 2004 petition and the pertinent questions we raised therein.

We are not simply idle bystanders who have decided to take issue with nuclear safety. We are two of the foremost nuclear safety experts in the country who for the last 18-months have been reviewing in detail the technical and engineering aspects of Vermont Yankee's application to increase its power output. The more technical specifications and safety criteria we study, the more concerned we become about the safety of Vermont Yankee. Yet, the NRC continues headlong toward licensing this 33-year-old nuclear reactor for the largest percentage power increase ever proposed at any nuclear facility in the United States and quite possibly in the world.

For your information, we have spent FOUR times as many hours as has the NRC's entire inspection team spent on its alleged special Engineering Inspection, yet the NRC continues to turn a deaf ear toward our concerns. As you well know, each of us has been involved in the nuclear industry for more than 30 years, first as engineers and later as independent consultants and expert witnesses. What you may not know, is that together we have spent more than 2800 hours reviewing the technical, engineering, and safety analyses prepared for Vermont Yankee's application to increase (uprate) the power its reactor may produce.

On March 17, 2004, the Vermont Secretary of the Senate wrote to you forwarding a resolution unanimously passed by the entire Vermont Senate. This resolution requested the NRC conduct an inspection that:

1) Assesses the conformance of the facility to its design and licensing bases, for operating at both 100 percent and 120 percent of its originally intended power production level;

2) Identifies all deviations, exemptions and/or waivers from (a) regulatory requirements applicable to Vermont Yankee and (b) regulatory requirements

applicable to a new nuclear reactor (i.e. today's safety regulations) and verifies that adequate safety margins are retained despite the cumulative effect of such deviations, exemptions, and/or waivers for both the present licensed power level and under the proposed extended power uprate.”

On May 24, 2004, when James Dyer responded for you to the Secretary of the Vermont Senate, he stated:

“The Senate requested that any assessment of Vermont Yankee assess the conformance of the facility to its design and licensing bases, for operating at both 100 percent and 120 percent of its originally intended power production level. We continually assess whether Entergy operates Vermont Yankee in conformance with Vermont Yankee’s design and licensing bases. One of the functions of our Reactor Oversight Process is to assess whether Entergy operates Vermont Yankee in accordance with the appropriate nuclear safety requirements and standards. The most recent annual assessment of Vermont Yankee concluded that the plant has been operating in a manner that preserved public health and safety. We have also conducted inspections beyond our normal inspections that are specifically focused on conformance with design and licensing bases.”

Chairman Diaz, please note that the clever wording of this NRC response to the Vermont State Senate provides no assurance of regulatory compliance, either now or when the plant operates at its proposed 20 percent power increase.

According to its own report, the NRC inspection team reviewed only 45 specific items and yet it still identified 8 clear violations of NRC regulation. Individually, while some of these violations may not be of high safety significance, taken collectively, they indicate a severe breakdown of Vermont Yankee’s Quality Assurance (QA) program. These findings add significant concern to an already problematic application since Vermont Yankee’s QA program is the very program that was implemented to assure regulatory compliance.

In reviewing the inspection report issued by the NRC, we note that the condition of Vermont Yankee was reviewed against its design drawings and specifications (USFAR), operating procedures, calculations, Information Notices, Generic Letters, and Regulatory Guides, and it was not reviewed for compliance with NRC regulation including the

General Design Criteria². As noted in the inspection report written and issued by the NRC, the NRC conducted this inspection as a “pilot program” for the industry.

“The inspection was the first of four planned pilot inspections to be conducted throughout the country to assist the NRC in determining whether changes should be made to its Reactor Oversight Process (ROP) to improve the effectiveness of its inspections and oversight in the design/engineering area.”

What a twist of words this “pilot program” has been passed off as the independent engineering assessment originally requested unanimously by the Vermont State Senate. For instead of being the unique safety-sensitive examination Vermont’s Congressional Delegation, the State of Vermont, the Public Service Board and its vetted experts, and the Vermont State Senate all requested, this inspection was a one-size fits-all program designed instead to assess the performance of the NRC Reactor Oversight Process (ROP).

By our reckoning, the NRC’s performance is sadly lacking when it conducts an inspection against generic communications while ignoring the very inspection criteria it is statutorily obligated to evaluate. Except for brief discussions in this NRC issued report regarding 10 CFR Appendix B and 10 CFR 50.63, the NRC remains eerily silent about hundreds of other critical NRC safety regulations.

An inspection like the one NRC just concluded at Vermont Yankee, and thus summarized in its report, would be similar to one of us developing a maintenance program for our car (USFAR) by stating we would change the oil every 50,000 miles, but simultaneously, we would never reference the owner’s manual (NRC regulation). Therefore, by following NRC logic, as long as we changed the oil at this 50,000-mile interval, we would comply with our “design bases” and our car would operate safely. Let us take this analogy one step further and point out that if we inspect our car the way the NRC continues to inspect Vermont Yankee, we will never detect the underlying problem with our car’s

² The design bases includes such items as the Updated Final Safety Analysis Report (UFSAR), Technical Specifications, Orders, etc. We have previously pointed out to the NRC that the UFSAR does not reflect the design of the plant and that it fails to even attempt to address the most basic General Design Criteria (GDC). The use of the UFSAR as the bases for the inspection is therefore inadequate. The bases for the inspection needs to be the NRC regulations.

maintenance program.

During this most recent inspection, the NRC-assembled inspection team really looked at Vermont Yankee's design control process and plant procedures and did not assess applicable NRC safety regulation, even though it is statutorily obligated to do so.

Therefore, our single biggest concern remains that any inspection conducted at Vermont Yankee must use the applicable NRC regulation including the General Design Criteria (GDC) as the inspection norm. We notified the NRC of this critical nuclear safety concern in our 2.206 petition dated July 29, 2004. Four and one-half months later, the NRC still has not responded to this very real nuclear safety issue.

The Atomic Energy Act of 1954, as amended, formulated at the inception of the nuclear power industry, established “adequate protection” as a sound methodology and rule of law by which to ascertain the safety of an industry that relies upon atomic energy as its energy source. The “adequate protection” methodology was designed to protect the public from the inherent safety risk involved in using such a lethal technology to generate power in close proximity to cities and towns. It is the standard of safety upon which NRC regulation is based. “Adequate protection” means, “if the NRC review determines that the proposed changes would be in compliance with the applicable regulatory requirements, there is reasonable assurance that the proposed change is safe.”

Certainly, we need not remind you and the other Commissioners that the NRC granted Vermont Yankee’s operating license on March 21, 1972 with the following provision.

”The Board has concluded that the facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission and will not be inimical to the common defense and security or to the health and safety of the public and that Vermont Yankee is technically and financially qualified to engage in the activities authorized by the operating license. The Board has further concluded that the activities authorized by the license will not have a significant, adverse impact on the quality of the environment and that the requirements of 10 CFR 50.57 (c) have been satisfied.”

According to this statement, NRC provided the public with the assurance that the

underpinning of “adequate protection” would be provided as long as the plant is in conformance with “*the rules and regulations of the Commission*”.

The most recent inspection and our extensive review of Vermont Yankee and NRC documentation affirm our contention that the plant is definitely not in compliance with NRC regulation.

Moreover, it is also very clear that the NRC seems to be wholly unable to determine Vermont Yankee’s compliance with NRC regulation. The entire so-called independent inspection was compromised as:

- The “independent” team was not independent, but was handpicked by the NRC.
- Qualified individuals were eliminated from consideration after the NRC “developed” arbitrary criteria for team members in order to solidify a team specific to NRC needs.
- It is clear that although the alleged “independent” team completed its inspection in five weeks, the report itself has been groomed within the NRC for almost three months³. Clearly any illusion of independence has been removed from what is really a Reactor Oversight Process (ROP) “pilot program” and industry prototype engineering assessment.
- Even with its total lack of independence, this team still identified eight areas of regulatory non-compliance, while reviewing less than one percent of the plant’s systems. Therefore the “cockroach theory” would suggest that there must then be at least 800 more problems that the NRC failed to discover.
- Additionally, the inspection stated that 91 “samples” were selected and that 45 of the original 91 samples were selected for a more detailed review. From these 45 narrowly selected samples favored for detailed review, eight violations of NRC regulation were identified.
- These 91 samples represent significantly less than 1% of the areas impacting nuclear safety.
- Even assuming that 1% is an accurate estimate, this means that by statistical assessment approximately 800 areas of regulatory non-compliance currently exist at Vermont Yankee.

The fact that statistically there are more than 800 undetected violations of NRC regulation is of great concern to all New England residents.

³ The final report was not signed by the team members until December 2, 2003

Unless Vermont Yankee can demonstrate compliance with the NRC regulation, there is no assurance of the “adequate protection” under which the NRC has its statutory authority. Every plant in the country must comply with some type of General Design Criteria, just as when building a house one must comply with the building codes in effect when construction was begun. We are in agreement with the NRC that Vermont Yankee should comply with the 70 Draft GDC that were in effect when its construction began. However, we have found *absolutely no reference* to Vermont Yankee’s actual compliance with those 70 Draft General Design Criteria⁴ anywhere in the of hundreds of thousands of pages of Vermont Yankee licensing information we have reviewed.

Vermont Yankee’s NRC Project Manager informed us that Vermont Yankee's written commitment to the GDC was in the USFAR. This is an NRC claim that we believe to be patently false. Without a clear statement under oath from Entergy that Vermont Yankee meets those criteria and all other NRC applicable regulation, "adequate protection" to the general public cannot be assured.

Most importantly, since there is no assurance and no record that Vermont Yankee has demonstrated it is presently in compliance with the NRC regulation, there is no assurance of “adequate protection” at the present power level and most certainly not at the proposed uprated power increase.

To meet the requirements of The Atomic Energy Act⁵ and provide assurance of “adequate protection” to the general public as mandated by law, the NRC must demonstrate that Vermont Yankee is in compliance with its General Design Criteria (GDC) and other applicable regulations which are the very foundation by which Vermont Yankee received its license to operate and generate electricity within the State

⁴ Our review of revision 18 to VY’s UFSAR only discusses compliance with two of the GDC’s, both of these being the final GDC’s rather than the draft GDC’s. There are no discussions within the UFSAR addressing any of the known deviations from the GDC’s.

⁵ The Atomic Energy Act clarified that “adequate protection is presumptively assured by compliance with NRC requirements”. Furthermore, according to the NRC³ the August 27, 1997 NRC Staff Requirements Memorandum (SRM) stated that “compliance simply means meeting applicable regulatory requirements”. The August 27, 1997 SRM qualified its position, by stating that in “the case for any proposed license amendment, the NRC staff review determines if the proposed changes would be in compliance with the applicable regulatory requirements”

of Vermont. Further, the NRC must provide assurance that the plant will remain in compliance with all NRC regulation should the 20% uprate be approved.

Over and over again, we have requested that the NRC demonstrate to the general public that Vermont Yankee is in compliance with NRC regulation, thereby guaranteeing to the citizens of Vermont and its neighboring states that “adequate protection” is assured as is mandated by law. We have filed a 10 CFR 2.206 petition with the NRC requesting that Vermont Yankee identify its design bases. While this petition was filed in July 2004, we have yet to receive a final response from the NRC.

Short of a new and completely independent inspection that verifies that Vermont Yankee is in compliance with all NRC regulation, there is no assurance that the public is adequately protected. We urge the Commission, and particularly you Chairman Diaz, to direct the NRC Staff to issue a Demand For Information (DFI) letter to Vermont Yankee in order to clarify its design bases and identify all deviations from any and all applicable regulation. If the Commission is unwilling to take this action, we request that the NRC Staff provide us with all information identifying Vermont Yankee Design Bases and all applicable NRC regulation including all areas in which Vermont Yankee deviates from NRC regulation.

Consequently, we expect that NRC will provide answers to the significant safety issues we have identified. Additionally, we also expect answers to these issues at the VSNAP/NRC meeting December 16, 2004 in Brattleboro, Vermont.

Furthermore, so there is no misinterpretation on anyone’s part, we are nuclear safety advocates who have worked unceasingly for more than 15 years on critical nuclear safety issues in the public arena both here and abroad. Least we remind you, that we are two of only several expert witnesses who were vetted to testify regarding the accident at Three Mile Island. Subsequently, each one of us has testified before establishments as diverse as the United States Senate, the Senate of the Czech Republic, and the Vermont Public Service Board as well as numerous other state and federal quasi-judicial hearings.

Finally, Chairman Diaz, once again, we respectfully request that you personally intervene in order to assure that by proper reconciliation of Vermont Yankee's design bases and applicable NRC regulation, your agency fulfills its Congressional mandate to protect public health and safety. Moreover, by doing so, we are certain that you will also advance your agency's goals, not only those of adequately maintaining safety, but more importantly at this critical juncture, the goal of increasing public confidence in the NRC's ability to create a safe nuclear power environment. This is an area now sorely tried by the perception that the NRC only gives lip service to enforcing regulation.

Sincerely,



Paul M. Blanch



for Arnie Gundersen

Cc: Senator Jeffords
Senator Leahy
Congressman Saunders