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Statement of James Riccio
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Before the
U.S. Nuclear Regulatory Commission
On
Results of the Agency Action Review Meeting

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Good morning Chairman Diaz, Commissioners Dicus, McGaffigan and Merrifield, Greenpeace welcomes this opportunity to present our views to the Commission on the results of the Agency Action Review Meeting and on the NRC's Reactor Oversight Process.

Admittedly, I have never been a big fan of the Revised Reactor Oversight Process (ROP). I was originally a participant in the pilot evaluation panel. However, when it became evident that differing opinions would not be tolerated or reported back to the Commission I withdrew my participation. It was evident to me then that in the transition to the new reactor oversight process the agency would lose much of the transparency that it had taken years to achieve.

The old "watch list" process became so transparent that it became evident that the NRC senior managers were short-circuiting the regulatory processes by failing to take the regulatory actions warranted by the performance indicators and watch list process. If I could figure out which reactors needed regulatory attention, why couldn't the NRC? I was using your data! Fortunately those senior managers are no longer with the agency and are now pulling paychecks from the industry they worked so hard to protect while they were supposedly protecting the public health and safety.

The NRC has always had the information necessary to make the correct assessments of problem nuclear plants. NRC senior managers either lacked the will or the integrity to act upon the data they had in hand. As the U.S. General Accounting Office pointed out, "NRC has not taken aggressive enforcement action to force the licensees to fix their long-standing safety problems on a timely basis. As a result, the plant's condition has worsened, making safety margins smaller."[1] Sadly, this statement is as true today as it was the day it was written.

Unfortunately, little has changed in the three years since the implementation of the new oversight process. The NRC continues to lurch from one crisis to the next and in the process has undermined the public confidence in the Commission, NRC senior management and ultimately the nuclear industry.

NRC senior management has continued to place the economics of the nuclear industry ahead of public health and safety. According to the NRC's Inspector General report on Davis Besse, "(d)uring its review of the potentially hazardous condition at Davis-Besse, the NRC staff considered the financial impact to the licensee of an unscheduled plant shutdown." [2] Additionally the NRC's Inspector General found that:

> (w)ith respect to Davis-Besse, one NRR senior official noted to OIG that the staff considered the large cost FENOC would incur if ordered to shut down, particularly if no cracking was found upon inspection…. the NRR Director had spoken with the FENOC President and was aware of the licensee's financial concerns pertaining to an unscheduled shutdown. According to the memorandum, the FENOC President told the NRR Director that the impact of a shutdown prior to February 2002 would be significant, and that Davis-Besse would be better positioned to shut down in February because of the availability of replacement fuel. The FENOC President confirmed to OIG that this discussion took place.[3]

The NRC's Inspector General has also reported that, "NRC appears to have informally established an unreasonably high burden of requiring absolute proof of a safety problem, versus lack of reasonable assurance of maintaining public health and safety, before it will act to shut down a power plant."[4]

Apparently, NRC's senior mangers have deluded themselves into believing that their strategic performance goal of "reducing unnecessary regulatory burden" somehow trumps or takes precedence over the NRC's statutory responsibility to protect the public health and safety. Since the implementation of the new oversight process, NRC senior management has continued to scuttle efforts of its own staff to regulate the industry and has allowed reactors to operate to point of breakdown.

A pattern has seemingly developed that has gone unnoticed by this Commission. NRC staff attempts to enforce the regulations and potentially shut down a reactor. NRC senior management intervenes to prevent the "unnecessary regulatory burden" of actually complying with the regulations. The NRC allows the reactor to continue to operate until it is forced to shut down by incident or accident.

The debacle at Davis Besse is not an anomaly; it is merely NRC business as usual. It is the same pattern of regulatory neglect by the NRC that led to the steam generator tube rupture at Indian Point in 2000.[5]

It was my contention then and now, that the new oversight process does not regulate the industry, it regulates the agency. It circumscribes what action the NRC may take based upon a candy-color-coated ranking of performance indicators that are so meaningless as to be irrelevant. It handcuffs NRC regional inspectors unless reactor operation is so atrocious that it trips the line from green to white. However that's next to impossible because the industry and the agency set the thresholds so high that a reactor would never trip the indicator. [6]

The new oversight process has failed to curb the same abuses of authority by NRC senior management that led to the shut down of every reactor in the state of Connecticut and a re-examination of the reactor oversight process in the first place.

Performance Indicators

Through the research and writing of three Nuclear Lemons reports encompassing a decade worth of reactor data, I became aware that if the industry and agency could not improve performance they would manipulate the performance indicators to achieve a downward trend.[7] Under the revised reactor oversight process this massaging of performance indicators has continued. Under the new assessment regime, NRC has manipulated the only indicator that it and NEI couldn't get to trend downward under the previous program, safety system failures. The NRC has allowed the industry to split hairs over the difference between functionality and operability by adding a caveat to the performance indicator. Rather than track safety system failures, the new program will track safety system functional failures. The NRC should not attempt to excuse these safety system failures by applying some ex-post facto justification based upon risk insights that may not be accurate.

In April 2000, the Commission asked the ACRS to review the new Reactor Oversight Process. Specifically, you asked the ACRS to review the use of performance indicators in the Reactor Oversight Process to ensure that they provide meaningful insight into aspects of plant operation that are important to safety.

The ACRS found that performance indicator thresholds for the white/yellow and the yellow/red thresholds for initiating events and mitigating systems are not meaningful. The ACRS has pointed out to the NRC staff that:

> it would take more than 20 reactor trips per year to effect the initiating event risk category in a sufficient amount to cause a licensee to enter the red band. Clearly, 20 trips in a year is far worse than industry performance has been for at least four decades to my memory.
>
> It would take over 2000 loss of heat sink events over a 3-year period or more than two per day to enter the red category for the loss of heat sink events. Clearly, these are not particularly meaningful. The same pattern occurs in the mitigating system category.[8]

The ACRS has repeatedly pointed out the failings of the performance indicators used in the NRC's color-coded system. I cannot understand how that NRC staff can think that these performance indicators are even worth the time and effort needed to collect the data. The fact that the staff is ignoring the ACRS is even more troubling. Why have advisory committees if the NRC is going to ignore their advice?

The Significance Determination Process – Justice Delayed is Justice Denied.

The NRC is well aware of the timeliness concerns with the significance determination process (SDP).[9] It has become evident during the Davis Besse debacle that

the NRC's significance determination process is so slow and arbitrary that it can not provide meaningful input into the reactor oversight process. However, our concerns with the SDP go well beyond timeliness.

The SDP is so fatally flawed that the NRC should scrap it. It is so thoroughly incomprehensible that the NRC had to create workbooks for the staff in an effort to make the process repeatable. That too has not worked, so now the NRC wants to produce workbooks with pre-determined outcomes. As I pointed out to this Commission years ago, if the SDP is not repeatable it is certainly not science and is more akin to a black art. The NRC takes an accident or incident at a reactor, runs it through the SPD and magically the accident or incident is less significant that previously believed.

One small problem: the SDP is based upon probabilistic risk assessments (PRAs) that do not reflect reality. The PRAs do not account for deviations from the reactor's design and licensing basis and the NRC treatment of old design issues only exacerbates this problem. As my colleague from the Union of Concerned Scientists (UCS) has repeatedly pointed out to the Commission, your risk assessments don't even reflect the fact that the reactor vessel can fail. [10]

If the reactor vessel can't fail then the Pressurized Thermal Shock rule would not have been needed and would constitute an "unnecessary regulatory burden." If the vessel can fail, why isn't that reflected in the risk assessment? When I asked the NRC staff whether the NRC planned to revisit their risk assessments to reflect the reality of vessel failure, all I got in response was a long and drawn out bureaucratic no!

The NRC Has Failed to Learn the Lessons of Past Regulatory Failures

Unless the NRC is honest about its own shortcomings in regards to the reactor oversight process it will be impossible to improve the process and declining reactor performance will continue to result in accidents, incidents and other surprises for the NRC and the industry.

The section below never appeared in the Davis Besse Lessons Learned Task Force report. In a discussion last week with the NRC, I was told that the section below was purportedly outside the scope of the DBLLTF and so was not incorporated in the final document. However, this omitted portion of the report is directly on point for this morning's discussion:

> 3.4.2 The NRC Failed to Provide Adequate Reactor Oversight Process Guidance.
>
> The LLTF found that the staff was having difficulty characterizing the significance of the avis- Besse (Sic) event. This difficulty appeared to stem from technical limitations of risk assessments and SDPs in that pressure boundary integrity does not appear to be treated explicitly in PRAs. As a result, the type and extent of wastage of the RCS pressure boundary encountered at Davis-Besse appeared to be more within the scope of traditional deterministic analyses than in a risk-informed framework. In fact, as of the time of the LLTF review, the SDP for this

event had been in progress for 5 months, with no resolution. Members of the NRC staff expressed the opinion that, in the transition to the ROP, the agency has placed an over-reliance on risk information as opposed to deterministic methods.[11]

Greenpeace is left to wonder how many other regulatory issues and insights were deemed to be "beyond the scope" of the Davis Besse Lessons Learned Task Force. We have received file boxes full of FOIA documents, unfortunately many of those documents and emails were sanitized prior to being publicly released.

CONCLUSION

When the NRC first instituted the revised reactor oversight process, the staff was surveyed. The results, as reported in Inside NRC, should have given the Commission cause for concern:

- 70% of those surveyed believed that the new process would not catch declining performance "before a significant reduction in safety margins."
- 70% of NRC's resident inspectors believed that the new process "may not identify and halt degrading performance."
- 79% of NRC staff either had no opinion or believed that the new performance indicators did not provide an adequate indication of declining performance.
- 75% of the NRC staff thought that the nuclear industry and NEI had too much influence and input into the new process.[12]

Guess what? The NRC staff was right!

When the NRC solicited comments on the 2002 reactor oversight process, the agency stated that the revised reactor oversight process inherently encompassed the NRC's performance goals. However, if we hold the revised reactor oversight process up to the NRC performance goals on can only conclude that the process has been an abysmal failure:

- The oversight process failed to maintain safety and failed to ensure that reactors are operated safely.
- The oversight process failed to enhance public confidence by failing to increase the predictability, consistency, and objectivity of the NRC and by failing to provide timely and understandable information.
- The NRC has failed to improve the effectiveness, efficiency, and realism of the oversight process by ignoring the lessons learned from past regulatory failures.

The NRC may have reduced the regulatory burden on the nuclear industry but the agency has failed to maintain safety and has further undermined the public's confidence in the NRC as an independent and unbiased regulator of the nuclear industry.

I thank the Commission for their time and consideration of our comments.

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[1] U.S. General Accounting Office, Nuclear Regulation: Preventing Problem Plants Requires More Effective NRC Action, GAO/RCED-97-145, May 1997, pp. 2 & 3.

[2] U.S. Nuclear Regulatory Commission, Office of the Inspector General, NRC's Regulation Of Davis-Besse Regarding Damage To The Reactor Vessel Head Case No. 02-03S, December 30, 2002, p.23.

[3] U.S. Nuclear Regulatory Commission, Office of the Inspector General, NRC's Regulation Of Davis-Besse Regarding Damage To The Reactor Vessel Head Case No.02-03S, December 30, 2002, p.17.

[4] U.S. Nuclear Regulatory Commission, Office of the Inspector General, NRC's Regulation Of Davis-Besse Regarding Damage To The Reactor Vessel Head Case No. 02-03S, December 30, 2002, p.23.

[5] U.S. Nuclear Regulatory Commission, Office of the Inspector General, NRC's Response to the February 15, 2000 Steam Generator Rube Rupture at Indian Point 2 Power Plant, Case No. 00-03S, August 29, 2000.

[6]Riccio, James, Comments of James Riccio Greenpeace Nuclear Policy Analyst to The U.S. Nuclear Regulatory Commission on the Third Year of Implementation of the Reactor Oversight Process, January 7, 2003.

[7] Riccio, James, Nuclear Lemons: An Assessment of America's Worst Nuclear Power Plants, Public Citizen's Critical Mass Energy Project, 1996, p. 24.

[8] U.S. Nuclear Regulatory Commission, Meeting with the Advisory Committee on Reactor Safeguards, December 5, 2001, p. 3.

[9] U.S. Nuclear Regulatory Commission, Office of the Inspector General, Review of NRC's Significance Determination Process, OIG-02-A-15, August 21, 2002.

[10] Lochbaum, David, Union of Concerned Scientists, Dickens of A Story: Ghosts of Past Present and Future at Davis Besse, To: John A Grobe, Chairman, Davis Besse 0350 panel and Edwin Hackett, Assistant Team Leader, Davis Besse Reactor Vessel Head Degradation Lesson Learned Task Force, July 3, 2002, p. 3.

[11] U.S. Nuclear Regulatory Commission, Freedom Of Information Act Response, FOIA/PA 2003-0018, March 20, 2003, Appendix C, Document C/6.

[12] Jenny Weil, "Some Regional Staffers Question Adequacy of New Oversight Process." Inside NRC, January 17, 2000, p. 1.