

EDO Principal Correspondence Control

FROM: DUE: 07/11/02 EDO CONTROL: G20020371
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FINAL REPLY:

David Lochbaum
Union of Concerned Scientists

TO:
Hackett, OEDO

FOR SIGNATURE OF : ** GRN ** CRC NO:
Howell, OEDO

DESC: ROUTING:
Davis-Besse
Travers
Paperiello
Kane
Norry
Craig
Burns/Cyr
Dyer, RIII
Collins, NRR

DATE: 06/20/02

ASSIGNED TO: CONTACT:
EDO Howell

SPECIAL INSTRUCTIONS OR REMARKS:
Add W. Kane, DEDR on for concurrence.



Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions

June 19, 2002

Mr. Edwin M. Hackett
Assistant Team Leader
Davis-Besse Reactor Vessel Head Degradation Lesson-Learned Task Force
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Mr. Hackett:

On behalf of the Union of Concerned Scientists, it is my pleasure to provide the Lessons Learned Task Force with input regarding the Davis-Besse event. We were pleased that the NRC established the task force. The charter for the task force appears thorough. It is particularly noteworthy that the charter includes the charge of reviewing international practices. We have no particular reason to believe that there has been a problem in this area, but it has not typically been explicitly addressed in past efforts and may yield positive contributions.

Failure to Update Final Safety Analyses Reports

As you know, UCS provided input last week to Mr. John Grobe, Chairman of the 0350 Panel established by the NRC to oversee restart activities at the plant. Our letter to Mr. Grobe was dated June 12, 2002. The primary concern in that letter that seems to be within the purview of your task force was the first one involving apparent failure to comply with federal regulations. Quoting from our letter:

A review of the Davis-Besse UFSAR by UCS did not reveal any discussion of the analyses of safety issues performed in response to NRC requests such as Bulletin 2001-01, "Circumferential Cracking of Reactor Pressure Vessel Head Penetration Nozzles;" Generic Letter 97-01, "Degradation of Control Rod Drive Mechanism Nozzle and Other Vessel Closure Head Penetrations;" Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants;" and Bulletin 82-02, "Degradation of Threaded Fasteners in the Reactor Coolant Pressure Boundary of PWR Plants." Assuming for the moment that Davis-Besse performed the requested analyses, it appears that they did not comply with 10 CFR 50.71 paragraph (e) by incorporating information from said analyses into the UFSAR. That omission, in our view, contributed to the repeated failures of plant workers to fully appreciate the numerous warning signs of reactor vessel head damage.

UCS first raised the concern of licensees failing to adhere to 10 CFR 50.71(e) with the NRC in January 1997. The non-conformance continues unabated and contributed, in our opinion, to the near-miss at Davis-Besse. This issue appears to fall within item (b), Regulatory Process Issues, of the task force's charter. We hope that the Lessons Learned Task Force examines this matter.

Risk Assessments

It is our understanding that FirstEnergy and the NRC accepted the fact that one or more of the CRDM nozzles might be cracked at Davis-Besse based, in part, on risk assessments of that condition leading to reactor core damage. We understand that the risk assessments calculated the difference in core damage frequency between shut down and nozzle inspection by December 31, 2001, and shut down and nozzle inspection by February 16, 2002. We question the validity of risk assessments conducted over such a short duration. The six-week duration applied to initiating event frequencies would seem to allow things like replacing water with kerosene in fire protection headers. The chances of a fire starting in a six-week interval is small. If a fire were to start, it might be in a fire area bound by the Appendix R fire hazards analysis which assumes that fire engulfs and disables all equipment and cabling in the fire area. Thus, risk assessment could easily justify placing kerosene in fire protection headers for six weeks. Obviously, this justification would be absurd — or just as absurd as using risk assessments to justify postponing CRDM nozzle inspections from December 31, 2001, to February 16, 2002. We believe the task force should examine the appropriateness of using short-duration risk assessments in regulatory space.

How Green is Their Valley?

The situation at Davis-Besse resulted from a series of unbelievable bad judgements by FirstEnergy over the years. Throughout numerous public meetings regarding this event, I have repeatedly heard NRC managers characterize the situation as unacceptable.

It is our understanding that the NRC's Significance Determination Process (i.e., crayon selection process) has initially classified the Davis-Besse event as GREEN, based on the low initiating event frequency. The perceived low initiating event frequency is based on the stainless steel cladding being unlikely to catastrophically fail under both normal and transient pressure loading.

We are not disputing the calculations of FirstEnergy and the NRC staff as to the pressure-resistance of the stainless steel veneer at Davis-Besse. We do, however, question the relevance of these calculations in the regulatory process. The stainless steel cladding was installed to protect the carbon steel reactor pressure vessel from corrosion. The stainless steel cladding is no more part of the reactor coolant pressure boundary than the water inside the primary coolant loop. The stainless steel cladding is not hydrostatically tested to ensure its leak-tightness. The stainless steel cladding is never mentioned when the industry or the NRC staff or the industry or the NRC staff cite defense-in-depth barriers.

That the stainless steel cladding functioned beyond its design requirements is fantastic, but it is more luck than skill. For the NRC staff to give full credit for the pressure retention capabilities of the stainless steel cladding in its Significance Determination Process ciphering is simply unacceptable. Again, the stainless steel cladding was not installed for that function and never tested to ensure that function. No credit should be assigned for material that fortunately performed far beyond its intended role.

Consider for a moment what would happen if the NRC issued a GREEN finding on the Davis-Besse event. According to the reactor oversight program, GREEN findings represent acceptable performance within the licensee response band. Davis-Besse is currently under a Confirmatory Action Letter, being monitoring by the NRC's 0350 Panel, being investigated by the NRC's Office of Investigations, being investigated by the NRC's Office of the Inspector General, and being investigated by the US Congress. All this attention is hardly consistent with "acceptable performance within the licensee response band."

A GREEN in this case would mean STOP. It would quite literally mean the reactor oversight program would stop being useful. How should external stakeholders view a GREEN finding issued to Plant X when a GREEN finding at Davis-Besse warranted \$100 million in repairs and extensive investigations?

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How should external stakeholders view a WHITE finding issued to Plant X? As being significantly worse than a huge, gaping hole in the Davis-Besse reactor vessel head caused by repeated mistakes? How could external stakeholders be comfortable with a GREEN finding issued to Plant X unless it was also accompanied by the 0350 Panel process, Congressional inquiries, etc. that accompanied the GREEN finding at Davis-Besse?

UCS appreciates this opportunity to provide our views on this important subject.

Sincerely,

A handwritten signature in black ink that reads "David Lochbaum". The signature is written in a cursive style with a large initial "D".

David Lochbaum
Nuclear Safety Engineer
Washington Office