**NRR-PMDAPEm Resource**

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|---|---|
| **From:** | Michael Mulligan <steamshovel2002@yahoo.com> |
| **Sent:** | Friday, February 12, 2016 8:39 PM |
| **To:** | Koenick, Stephen |
| **Subject:** | [External_Sender] Re: Re: Re: The U.S. NRC OEDO-15-00251: Petitioner's Letter Re: 2.206 - Emergency Ultrasonic Inspection Test or Best Available Flaw Detection Technology for USA Reactor Plants Similar to the Thousands of Cracks Discovered in Belgium N... |
| **Attachments:** | 2,206 Belgium Cracks Response.docx |

Here is the response in the attachment. Sorry for the delay. Good job at prompting me to finish the job.

Mike

On Wednesday, February 10, 2016 10:14 AM, "Koenick, Stephen" <Stephen.Koenick@nrc.gov> wrote:

Dear Mr. Mullilgan,

That will be fine.

Thank you

*Steve*

**Stephen S. Koenick**
Senior Project Manager
Plant Licensing Branch IV-2 (LPL4-2)
Division of Operating Reactor Licensing (DORL)
Office of Nuclear Reactor Regulation (NRR)
US Nuclear Regulatory Commission
(301) 415-6631
Stephen.Koenick@nrc.gov

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**From:** Michael Mulligan [mailto:steamshovel2002@yahoo.com]
**Sent:** Wednesday, February 10, 2016 10:10 AM
**To:** Koenick, Stephen <Stephen.Koenick@nrc.gov>
**Subject:** [External_Sender] Re: Re: The U.S. NRC OEDO-15-00251: Petitioner's Letter Re: 2.206 - Emergency Ultrasonic Inspection Test or Best Available Flaw Detection Technology for USA Reactor Plants Similar to the Thousands of Cracks Discovered in Belgium Nucle...

Steve.
I apologized for the delay. You have been more than fair to me. I do intend to reply. I will submit it by the end of this Friday ( 2/12).
Mike

On Wednesday, February 10, 2016 9:34 AM, "Koenick, Stephen" <Stephen.Koenick@nrc.gov> wrote:

Dear Mr. Mulligan,

I wanted to follow up with you. Are you still planning on submitting comments? Or should I proceed with finalizing the director's decision. Please advise.

Thank you

Steve

**Stephen S. Koenick**
Senior Project Manager
Plant Licensing Branch IV-2 (LPL4-2)
Division of Operating Reactor Licensing (DORL)
Office of Nuclear Reactor Regulation (NRR)
US Nuclear Regulatory Commission
(301) 415-6631
Stephen.Koenick@nrc.gov

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**From:** Koenick, Stephen
**Sent:** Monday, February 01, 2016 8:54 AM
**To:** 'Michael Mulligan' <steamshovel2002@yahoo.com>
**Subject:** RE: Re: The U.S. NRC OEDO-15-00251: Petitioner's Letter Re: 2.206 - Emergency Ultrasonic Inspection Test or Best Available Flaw Detection Technology for USA Reactor Plants Similar to the Thousands of Cracks Discovered in Belgium Nuclear P...

Thanks for the heads up and thanks for the kind words regarding the comprehensive nature of our treatment of your petition.

I will look for your response by this Friday, February 5.

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**From:** Michael Mulligan [mailto:steamshovel2002@yahoo.com]
**Sent:** Monday, February 01, 2016 8:31 AM
**To:** nrc_mail_3-2 Resource <nrc_mail_3-2.Resource@nrc.gov>
**Cc:** Koenick, Stephen <Stephen.Koenick@nrc.gov>
**Subject:** [External_Sender] Re: The U.S. NRC OEDO-15-00251: Petitioner's Letter Re: 2.206 - Emergency Ultrasonic Inspection Test or Best Available Flaw Detection Technology for USA Reactor Plants Similar to the Thousands of Cracks Discovered in Belgium Nuclear P...

Mr. Koenick,

Things have come up. I'll get out that response to my 2.206 by this Friday (Jan 5).

On Wednesday, January 20, 2016 5:53 PM, nrc_mail_3-2 Resource <nrc_mail_3-2.Resource@nrc.gov> wrote:

Subject: OEDO-15-00251: Petitioner's Letter Re: 2.206 - Emergency Ultrasonic Inspection Test or Best Available Flaw Detection Technology for USA Reactor Plants Similar to the Thousands of Cracks Discovered in Belgium Nuclear Power Plants

Accession Number: ML15286A235

**Hearing Identifier:** NRR_PMDA
**Email Number:** 2671

**Mail Envelope Properties** (775907923.2815644.1455327554669.JavaMail.yahoo)

**Subject:** [External_Sender] Re: Re: Re: The U.S. NRC OEDO-15-00251: Petitioner's Letter Re: 2.206 - Emergency Ultrasonic Inspection Test or Best Available Flaw Detection Technology for USA Reactor Plants Similar to the Thousands of Cracks Discovered in Belgium N...
**Sent Date:** 2/12/2016 8:39:14 PM
**Received Date:** 2/12/2016 8:42:17 PM
**From:** Michael Mulligan

**Created By:** steamshovel2002@yahoo.com

**Recipients:**
"Koenick, Stephen" <Stephen.Koenick@nrc.gov>
Tracking Status: None

**Post Office:** mail.yahoo.com

| **Files** | **Size** | **Date & Time** |
|---|---|---|
| MESSAGE | 3474 | 2/12/2016 8:42:17 PM |
| 2,206 Belgium Cracks Response.docx | 15483 | |

**Options**
**Priority:** Standard
**Return Notification:** No
**Reply Requested:** No
**Sensitivity:** Normal
**Expiration Date:**
**Recipients Received:**

Feb 12, 2016

Mr. Koenick,

Here is my response to "requesting emergency ultrasonic inspection testing for U.S. reactor plants similar to the cracks discovered in Belgium nuclear power plants" preliminary Director Decision.

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As I told the senior project manager Mr. Koenick, I give the NRC an A plus on this report. It accurately captured the issue and the NRC clearly stated their decisions. My job has always been to get things written down on the official documents that are missing. I am very happy with the job. Although, I disagree with the NRC's analysis.

Mr Koenick and I had a set of discussions recently. Basically he thanked me for submitting this 2.206. He said, "The 2.206 process was exactly made for the issues you raised." Mr. Koenick implied it took an outsider to raise the issue allowing the NRC to publically discuss this. This was the only way the rules allowed a NRC response to the Belgium vessel crack problem. I don't understand this comment. I am reminded in the recent IAEA inspection report with the Japanese's Nuclear Regulatory Authority inflexibility. The IAEA basically said, the politicians through their rules made the NRA inflexible. Mr Koenick implied the NRC was dying to publically discuss the Belgium vessel cracks issue on their own. But the system prevented them from discussing the issues unless outsiders provoked the agency with an inquiry. I hope they NRC can raise any issues that moves them at any time they wish. I hope silly rules aren't limiting what the NRC can discuss publically.

**NRC: "After comparing the indications from the 2012 and the 2014 inspections, the Belgian licensee concluded that the actual number and size of detected indications did not change over the period."**

Just saying, this isn't enough time to see if the cracks are growing or changing.

**The calculation of risk.**

I could make the case the calculation of risk isn't direct math and science. Ninety percentage of the calculation revolves around delicate assumption made by insiders. Nobody outside the industry understands anything about these risk calculations. Very few insiders understand risk calculations. It is the increasingly go-to tool for everything regulatory regime. It is like you put the agency in a black box and you disclose nothing to outsiders. The risk you calculate in not scrutinizable to outsiders. It make this calculation easily corruptible. It has never predicted or prevented a incident or accident from happening. Not one time.

**“The NRC, through its Office of Nuclear Regulatory Research, has previously obtained samples appropriate for testing from shutdown plants. With respect to this request, the NRC may, in the future, seek to purchase samples.”**

Are any of these samples similar to the worst possible hydrogen flake conditions at the worst plant? Does the samples bound the worst condition presently in the industry? Does it conservatively bound a sixty old plant or the eighty year old plant? Why can’t the NRC list the plants in which specimens were taken?

**Excessive radiation dose.**

You know, the radiation dose on the obtaining specimens is inconsequential compared to industry wide dose as a whole. Workers have conservative NRC dose limitation and they get paid handsomely to pick up dose risk. Any dose gained by bettering the knowledge and science of the industry is inconsequential on the big picture. If the NRC cared about the levels of dose with plant employees, such as example, the Columbia nuclear plant fuel failure, you’d shut down that plant emediately and clear out the bad pins.

**“Embrittlement of the steel used in RPV fabrication”**

There are other mechanisms that can damage the steel vessel in a nuclear plant other than radiation…and temperature and pressure stress. There is the steam and boron interactions creating the hole in the head Davis Besse. Please list all known steel vessel vulnerabilities including all corrosion mechanisms? Can another steam/CRDM/cracks corrosion mechanism like Davis Besse pop out of nowhere and interact with the hydrogen Flakes?

Detecting Hydrogen flakes

I am a little confused with detecting all hydrogen flakes at the vessel manufacturing and not being able to see hydrogen flaking until the recent Belgium vessel crack incident. I am concerned we can’t contrast an old vessel x-ray and a new UT at the identical area. We can’t detect any changes over decades.

**Conclusion**

I am disturbed we don’t have a periodical means (like UT) to detect cracks anywhere on the core.

Sincerely,

Mike Mulligan

Hinsdale, NH

1-603-209-4206