CHAIRMAN Resource

From: Jeff Steinmetz <jeffmsteinmetz@yahoo.com>
Sent: Saturday, November 08, 2014 6:18 AM
To: Csontos, Aladar
Cc: dgilmore@cox.net; Woollen, Mary; CHAIRMAN Resource; Lombard, Mark; Dunn, Darrell; Hsia, Anthony
Subject: Re: Sandia transport of DCI report

Hello Al,

Perhaps when you said "I'll definitely take a look at the report" you should have given yourself more time. It appears you only looked at the executive summary and took three sentences out context to justify and continue misleading the public. The very next sentence in the paragraph you borrowed from started with the word "HOWEVER". This should have provided you a strong hint that perhaps you might read a little further. The specific text you provided in your email has completely misstated the authors intent. In a previous email you stated **"I'll definitely take a look at it and talk with one of the authors who I know well."** so it is very alarming you would manipulate the intended message of "the authors" you "know well".

Your concern of "**low temperature brittle fracture**" is addressed in this paper and the DCI cask were tested at -29C and -49C exceeding NRC requirements. Also, Sandia National Laboratories is not alone in this opinion because the same opinion has been reached by ASTM, ASME, and IAEA. The Areva nuhoms 32PTH2 and the Holtec UMAX are not certified by ASTM or ASME. They also do not meet the standard of the IAEA.

Below, I have provided the complete cut and paste of the entire paragraph you borrowed from, so others inside of the NRC can see the intension of the original authors.

Taken from the last paragraph on viii (PDF page 9) of the Sandia National Laboratories paper. http://www.osti.gov/scitech/biblio/654001

" The proposed use of ferritic materials for packaging containment has not been without controversy and critics. Ferritic materials, unlike austenitics, such as stainless steel, may exhibit a failure mode transition with decr. easing temperatures and/or increasing loading rates from a ductile, high-energy failure mode to a brittle, low-energy fracture mode at below-yield stress levels. Regulators have thus been justifiably cautious regarding the use of ferritics for RAM package applications and have indicated that certification of such packages would require extensive confirmatory research and supporting data (although ferritic RAM packages for storage applications have been certified by the ***NRC).*** **However,** the general conclusion of the research reported herein is that appropriate engineering design methodologies exist which, when rigorously applied to RAM transport packaging conditions and environments, warrant the use of suitable ferritic materials for packaging containment. This report summarizes the Sandia work in support of that conclusion. The report also cites and references parallel research and conclusions of other institutions."

If you are still standing by your statement the castor cask suffer from **"low temperature brittle fracture"** then I restate my request emailed to you on Wednesday, October 29, 2014 12:31 AM.

" The conclusions of this study are not limited to Sandia and are also shared by ASTM, ASME, and IAEA. As result, I expect this paper and the contents to be taken seriously and if the NRC is not in agreement with Sandia National Laboratories, ASTM, ASME, and the IAEA, I request and expect to see a scientific paper refuting the content in this paper. For the well being of the public you are supposed to protect, please do not send me an email with an opinion. I am requesting a scientific paper, with all the supporting data and references."

Thanks
Jeff Steinmetz
Concerned & Informed resident of San Clemente, CA

Sent from my iPad

On Oct 29, 2014, at 8:06 PM, Csontos, Aladar <Aladar.Csontos@nrc.gov> wrote:

> Hi Jeffrey,
>
> I did take a quick look at the report and here's why I said what I said. If you look at the Executive Summary:
>
> > The proposed use of ferritic materials for packaging containment has not been without controversy and critics. Ferritic materials, unlike austenitics, such as stainless steel, may exhibit a failure mode transition with decreasing temperatures and or increasing loading rates from a ductile, high-energy failure mode to a brittle, low-energy fracture mode at below-yield stress levels. Regulators have thus been justifiably cautious regarding the use of ferritics for RAM package applications and have indicated that certification of such packages would require extensive confirmatory research and supporting data (although ferritic RAM packages for storage applications have been certified by the NRC).
>
> I haven't been able to get in contact with the authors yet.
>
> Thanks,
> Al

From: Jeffrey Steinmetz [mailto:jeffmsteinmetz@yahoo.com]
Sent: Wednesday, October 29, 2014 4:35 PM
To: Csontos, Aladar; 'dgilmore@cox.net'
Cc: Woollen, Mary; CHAIRMAN Resource; Lombard, Mark; Dunn, Darrell
Subject: Re: Sandia transport of DCI report

Hello Al,

Thanks for your most recent reply. However, I am more interested in getting the bottom of your statement the castor/DCI cask are subject to "low temperature brittle fracture ". In your previous email sent to me just this morning you stated "I'll definitely take a look at the report", and that "I know some of the authors very well, so I can go direct to the source too." It is my hope this will get done ASAP to help insure the NRC has provided the public only facts supported by non partisan scientific research. As previously requested if the NRC is not in agreement with Sandia National Laboratories, ASTM, ASME, and the IAEA, I request and expect to see a scientific

paper refuting the content in the Sandia National Laboratories paper "Fracture Mechanics Based Design for Radioactive Material Transport"

Below is a cut and past of your email sent:
****
******
On Wednesday, October 29, 2014 6:09 AM, "Csontos, Aladar" <Aladar.Csontos@nrc.gov> wrote:

Hi Jeff,

Thank you for the info and thanks for taking the time to talk with me during the break.

I'll definitely take a look at the report. I know some of the authors very well, so I can go direct to the source too. The issue that I brought to your attention was low temperature brittle fracture, not ambient or elevated temperature conditions.

Thanks,
Al

****
****
Thanks again for your prompt attention to this critical issue.
Jeff Steinmetz

On Wednesday, October 29, 2014 10:55 AM, "Csontos, Aladar" <Aladar.Csontos@nrc.gov> wrote:

Hi Jeff,

Thanks for the information.

When an application is submitted, we will review the application to ensure that the system meets our regulations. Currently, we have no application to review. The last application under review for a similar type of system was done before my time at the NRC and was terminated due to deficiencies in the application.

We did approve a Certificate of Compliance #1000 from General Nuclear Systems, Inc. for the Castor V/21 Cask Independent Spent Fuel Storage Installation. However, the certificate expired on August 17, 2010 with no one employing the certificate throughout the country.

Thanks,
Al

From: Jeffrey Steinmetz [jeffmsteinmetz@yahoo.com]

Sent: Wednesday, October 29, 2014 1:15 PM
To: Csontos, Aladar; 'dgilmore@cox.net'
Cc: Woollen, Mary; CHAIRMAN Resource; Lombard, Mark; Dunn, Darrell
Subject: Re: Sandia transport of DCI report

Hello Al,

Thanks for the reply. However, this Sandia paper does address your concerns of "low temperature brittle fracture". Drop test were performed at both -29C and - 40C. Per the Sandia National Laboratories paper the test far exceed NRC regulations and IAEA specs.

Thanks,
Jeff

On Wednesday, October 29, 2014 6:09 AM, "Csontos, Aladar" <Aladar.Csontos@nrc.gov> wrote:

Hi Jeff,

Thank you for the info and thanks for taking the time to talk with me during the break.

I'll definitely take a look at the report. I know some of the authors very well, so I can go direct to the source too. The issue that I brought to your attention was low temperature brittle fracture, not ambient or elevated temperature conditions.

Thanks,
Al

From: Jeffrey Steinmetz [mailto:jeffmsteinmetz@yahoo.com]
Sent: Wednesday, October 29, 2014 12:31 AM
To: Donna Gilmore <dgilmore@cox.net>; Csontos, Aladar
Cc: Woollen, Mary; CHAIRMAN Resource; Lombard, Mark; Dunn, Darrell
Subject: Re: Sandia transport of DCI report

Hello Al,

I sincerely hope you will take the time to read this Sandia paper. As a leading NRC regulator it is imperative you have all the data. Even more importantly your recommendations and public comments should be based on scientific study and not US nuclear power industry preference. The NRC and SCE continue to reconstitute disproven information from other cask suppliers. If this continues the NRC will not be able to keep the public safe from the long term onsite storage issues associated with high burn up spent nuclear fuel.

The Castor Cask use Ductile Cast Iron (DCI) and DCI is not subject to brittle issues

commonly associated with cast iron. It is important that you, your staff, and your boss have all the facts concerning the use of DCI cask for radioactive material packaging. After talking with you last night and discussing your concerns about the Castor cask being brittle, it was clear you have not read all the material available covering cask constructed using DCI.

The conclusions of this study are not limited to Sandia and are also shared by ASTM, ASME, and IAEA. As result, I expect this paper and the contents to be taken seriously and if the NRC is not in agreement with Sandia National Laboratories, ASTM, ASME, and the IAEA, I request and expect to see a scientific paper refuting the content in this paper. For the well being of the public you are supposed to protect, please do not send me an email with an opinion. I am requesting a scientific paper, with all the supporting data and references.

Please use the link below and find the PDF icon in the upper right corner . The document is 4.65 MB and was refused by your email system for being too large.

"Fracture Mechanics Based Design for Radioactive Material Transport Packagings Historical Review"

Authors
Jeffrey A. Smith - "International Nuclear Safety Department"
Dick Salzbrenner, "Materials Performance, Reliability and Aging Department"
Ken Sorenson and Paul McConnel -"Transportation Development Department"

SciTech Connect: Fracture mechanics based design for radioactive material transport packagings -- Historical review<http://www.osti.gov/scitech/biblio/654001>

[https://ec.yimg.com/mail?url=http%3A%2F%2Fwww.osti.gov%2Fscitech%2Fbiblio-page%2F654001%2F1%2F12&t=1414539625&sig=KSEynpGoyWBtOy_2xFGHTQ--~B]<http://www.osti.gov/scitech/biblio/654001>

SciTech Connect: Fracture mechanics based design for rad...<http://www.osti.gov/scitech/biblio/654001>

View on www.osti.gov<http://www.osti.gov/scitech/biblio/654001>

Preview by Yahoo

Thank you,

Jeff Steinmetz

On Monday, October 27, 2014 8:24 PM, Donna Gilmore <dgilmore@cox.net> wrote:

Al,
Jeff mentioned you haven't seen this report regarding transport of ductile cast iron. It refutes the concerns regarding embrittlement.

Donna Gilmore
SanOnofreSafety.org
949-204-7794