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Subject: [External_Sender] My corrections and comments
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Attachments: [Corrections and Comments attachment.pdf](#)

Good Afternoon,

I spent too much time on these comments to just throw them out. So here they are, and the other CRAFT Officers will file the mistake form. And that transcriber sure made a lot.

Greetings to All Involved,

I had these comments ready and I will send them – and likely file your fill in the form by Wednesday – or the other CRAFT officials plan to do so. First let me say what an incredible experience the Teleconference was. Thank you all. And reading the transcript gave me a better insight to us all. DTE had three lawyers on-line and who knows how many clerks/interns/whatever on the listening lines shooting them legal points that the CRAFT team didn't have a clue about. The NRC Staff had three lawyers on-line and “technical experts” on a listen line. But for dedicated – and unpaid - private citizens, we did alright even if we didn't have ever document we had ever read or quoted laid out on my kitchen table.

The first corrections I would like to make are that our Declarant Hedi's name is Hedwig Kaufman, not Hedwid and she is a Trustee of Frenchtown Township, not Prince Township as written – even though the transcriber called me on the break to double-check the name of the township where Fermi is located.

Likely the most important correction I would like to submit is on page 55, lines 17 -20, 'DTE's Ryan Lighty: “What that represents is in essence a five percent sub-criticality margin. So, in other worlds, 1.5 and above is critical, and so 0.95 is five percent below that threshold.” That is so wrong. “Criticality occurs at 1.0,” stated Samuel Miranda, P.E., Retired NRC Safety Inspector. And CRAFT has pointed out through their filing that DTE is working with a 0.05 percent margin that is too scary to deal with.

We thank Mr. Lighty for clarifying DTE's LARs of three things: 1.) delete a license condition, 2.) revise tech specs, and 3.) approve a change to the criticality safety analysis. He insists DTE is **not** seeking approval to install the inserts, really? We still have serious objections to DTE being able to commit to a license condition agreement in order to get Fermi's operating

license extended for another 20 years, and then change their mind, but not forfeit the 20-year gain by their tomfoolery. And isn't what all of this is about – that DTE wants to install NETCO-SNAP Ins instead of removing the Boraflex and replacing it with Boral?

Mr. Lighty thinks we “fail to comprehend even the most basic contours of the LAR” (page 20, line 5 of the transcript) and we think he fails to comprehend some basic contours. For example, here is what Samuel Miranda, retired NRC P.E., explained:

According to its Renewed Operating License, NPF-43, issued on December 15, 2016, DTE is required, via License Renewal License Condition, to discontinue reliance on Boraflex, as a neutron absorption material, and replace the spent fuel pool (SFP) storage racks that contain Boraflex with racks that contain Boral.

Now, DTE requests the NRC to eliminate this License Renewal License Condition with respect to the Boraflex rack replacement. [1] If this request is approved, DTE will **not** remove or replace the Boraflex racks.

Section 4.3 of DTE's request [1] provides a “No Significant Hazards Consideration”, as required by 10 CFR 50.92(c), “Issuance of amendment.” The No Significant Hazards Consideration ask for responses to three questions:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?
2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?
3. Does the proposed amendment involve a significant reduction in a margin of safety?

DTE answers each of these questions with a “No”. DTE's evaluations, which lead to its negative responses, are based upon analyses in which SFP reactivity is limited (and criticality is prevented) entirely by Boral. This is a conservative, and justifiable assumption. However, DTE's evaluations are incomplete, insofar as they do not model the as-built design of the SFP, which contains degrading Boraflex racks.

Unfortunately, DTE's evaluations resemble prior, approved evaluations, for other plants (e.g., LaSalle [2]). They, too, are incomplete.

The NRC staff is asked to look for evaluations that reflect the presence of degrading Boraflex racks in the Fermi 2 SFP.

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Boraflex is conservatively assumed to be no longer functioning as a neutron absorbing material. Instead, Boral is used, in the SFP, to limit the effective neutron multiplication factor, k-effective, to levels that are at or below 0.95. However, DTE limits its evaluation to, "... only those accidents that are related to movement and storage of fuel assemblies in the SFP ... potentially be affected by the proposed changes." The evaluation accounts for the installation of NETCO SNAP-IN® rack inserts and their effect in the criticality safety analysis. It does not consider another of the proposed changes: the continued presence of Boraflex racks. This has the effect of installing Boraflex racks, in the SFP, when they're not needed for neutron absorption.

So, the Boraflex racks cannot reduce the probability of an accident previously analyzed. It can only increase it. DTE's evaluation does not consider this probability, nor make any judgment as to whether it could be significant.

Boraflex neutron absorber panels are licensed, and they've been used for many years. They're also known to be degrading. This is evidenced by gaps and/or localized washout of the boron content in the panels, by the shedding of silica into the SFP water. The NRC has issued Information Notices (INs) [87-43](#), [93-70](#), [95-38](#), and [12-13](#) and Generic Letter (GL) [96-04](#). For plants that operating under renewed licenses, the NRC provides aging management program guidance in the Generic Aging Lessons Learned (GALL) Report Revision 2: XLM22 Boraflex Monitoring Program ([NUREG – 1801](#)). There are also two technical letter reports (TLRs), issued in 2012: "Boraflex, RACKLIFE, and BADGER: Description and Uncertainties" (Agencywide Documents Access and Management Systems (ADAMS) Accession Number [ML12216A307](#)) and "Initial Assessment of Uncertainties Associated with BADGER Methodology" (ADAMS Accession Number [ML12254A064](#)) on the Boraflex neutron-absorbing material and various surveillance techniques.

DTE does not mention any of this in its evaluation. DTE does not consider the possibility of other failure modes that can impede the movement of fuel rods or cooling (e.g., cracking, embrittlement, swelling, structural failures, and chemical reactions).

DTE should consider all failure modes, in addition to aging, before it can respond with a "No" to this question.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

DTE states, in its response, that, "The proposed changes also allow for the continued use of SFP storage rack cells with Boraflex within those SFP storage rack cells". Boraflex is not considered to be a neutron absorbing material. The presence of Boraflex, therefore, is of no benefit in SFP criticality analyses. However, the presence of degrading Boraflex panels is a relatively new, unanalyzed component of the SFP. Therefore, degrading Boraflex panels could create the possibility of a new or different kind of accident from any accident that was previously evaluated.

The DTE evaluation does not consider this possibility. DTE cannot respond with a "No" to this question, until it evaluates this possibility.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Consider two SFPs: one with Boral, and one with Boral and degrading Boraflex. Both SFPs are maintained with k-effective levels that are at or below 0.95. The first SFP does not exist at Fermi 2. The second SFP is the as-built SFP. Both are evaluated by DTE only with respect to criticality factors. Since the degrading Boraflex is not considered by DTE as an effective neutron absorber, it does not contribute to the functions of an SFP. However, it can be the source of accidents, analyzed, and not analyzed.

Consider two SFPs: one with Boral, and one with Boral and degrading Boraflex. DTE provides identical criticality analyses for both. However, the first SFP has more safety margin than the second SFP, since the continued presence of Boraflex panels in the second SFP effectively reduces its margin of safety. That is, the second SFP has an expected, but unquantified reduction in its margin of safety.

DTE has not considered the margin of safety in the SFP that exists at Fermi 2 and has not considered whether the expected reduction in the margin of safety would be significant.

DTE cannot respond with a “No” to this question, until it evaluates the expected reduction in the margin of safety.

References:

[1] DTE Energy Company, “License Amendment Request to Revise Technical Specifications to Utilize Neutron Absorbing Inserts in Criticality Safety Analysis for Fermi 2 Spent Fuel Storage Racks”, dated September 5, 2019 (ADAMS No. ML19248C279)

[2] Exelon Generation, RS-09-133, “License Amendment Regarding the Use of Neutron Absorbing Inserts in LaSalle County Station, Unit 2 Spent Fuel Pool Storage Racks”, dated October 5, 2009 (ADAMS No. ML092810279)

We submit Mr. Miranda’s comments, not for the record, but for the information so that those attacking CRAFT for being non-lawyers trying to make our bioregion a safer place.

And Ms. Woods doesn’t understand why CRAFT thinks leaving all that degraded Boraflex decomposing into silica and then cramming in the SNAP-Ins around it, both issues depleting the amount of water in the Spent Fuel Pool that only has a .05 margin between being stable and going berserk is not reasonable “because CRAFT does not cite on-point binding case law...” (page 26, line 20) Well, CRAFT doesn’t understand why they are so cavalier about this margin being safe. Avoiding criticality should be everyone’s priority.

Woods also states (page 27 - 28, lines 22 – 2) that “the NRC Staff is not aware of any operating experience that would support the existence of these phenomena even though approximately 40 U.S. facilities have used Boraflex at some point with some of those facilities having had the Boraflex in their spent fuel pools for up to 40 years.” The NRC Staff isn’t aware of any problems with Boraflex? Does she not know it was the NRC’s directive that Fermi get rid of the Boraflex to be able to operate another 20 years?

And would NRC Staff Jeremy Wachutka explain why CRAFT’s oversight failure to serve DTE and NRC Staff officially at the first filing harmed either DTE or Staff?

No to Judge Arnold (page 50, line 23), you did not “scare us off.” Were you able to do that, you would have done it when we were before trying to stop Fermi’s 20-year license extension? (We remember you well from that hearing.) We were only nervous and working one phone in the middle of my kitchen table. And trying to find answers among the papers scattered about. Here is one quote I was unable to find at that time.

I think that the problem is that no one asked about any specific scenario caused by the degraded Boraflex. Someone needs to look at those various reports (the GALL reports and the info notices), for failure mechanisms, and ask how they were considered and resolved. There is an operational issue, too, because the water in the SFP mixes with water in the reactor during a refueling, and someone should address the matter of leachate from the Boraflex into the RCS. Also, what about particulate debris being transported into the reactor vessel? someone from the staff must have asked about this on the past. It would be one of the first questions that I would have thought about. Debris can be nasty.
(Ralph Caruso, NRC Retired Engineer)

These are the Corrections and Comments that I have regarding the Transcript of the June 10th Oral Arguments Phone Conference.

Respectfully Submitted,

Jessie Pauline Collins, CRAFT Co-Chair