From: Banic, Merrilee
To: Lenning, Ekaterina
Subject: FW: Response to OEDO-17-00075 Petition Closure Letter
Date: Tuesday, September 05, 2017 4:02:11 PM
Attachments: BB-Petition-Reply-f.docx

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fyi

From: Samuel Miranda [mailto:sm0973@gmail.com]
Sent: Tuesday, September 05, 2017 3:02 PM
To: King, Michael <Michael.King2@nrc.gov>; Banic, Merrilee <Merrilee.Banic@nrc.gov>; Sun, Summer <Summer.Sun@nrc.gov>; Oesterle, Eric <Eric.Oesterle@nrc.gov>; Borromeo, Joshua <Joshua.Borromeo@nrc.gov>
Cc: Dave Lochbaum <dlochbaum@ucsusa.org>; Brett Chase <bchase@bettergov.org>; Bell, Hubert <Hubert.Bell@nrc.gov>
Subject: [External_Sender] Response to OEDO-17-00075 Petition Closure Letter

OEDO-17-00075 - Closure Letter for the enforcement petition regarding advice that Westinghouse has disseminated to its customers through its series of Nuclear Safety Advisory Letters

I have received your letter of August 23, 2017, which closes my petition of January 25, 2017. Your letter disposes of my petition by noting that Issues 1 and 2 do not request enforcement actions, and then by claiming that all the remaining issues have been reviewed and resolved by the NRC. I agree with your judgment of the first two issues. I believe the requested (non-enforcement) actions, if taken by the NRC staff, could prevent the recurrence of the errors that are commonly made by licensees and the NRC staff, and identified in this petition, and in the petition of November 15, 2016. I don't expect that any of the requested actions will be undertaken by the NRC staff. Finally, I do not agree, at all, that any of the remaining issues, in either of the two petitions have resolved by the NRC. (The details are given in the attached discussion.)

Here are ten questions regarding your evaluation of this petition.

(1) I met with Petition Review Board (PRB) on March 29, 2017, and again on May 23, 2017. At both meetings I complained that these meetings were not adequately noticed (see both transcripts), and supported my complaints with printouts of those days' meeting notices from the NRC's website. Why were the meetings not noticed with the same level of detail that was disclosed for all the other meetings that were scheduled for those days?

(2) During the meeting of May 23rd, you stated that the Petition Review Board (PRB) had decided to accept part of the petition (specifically points 4 and 7). Why had the PRB accepted point 7; but not point 6? Then, three months later, the entire petition is not accepted. What changed between May 23rd and August 23rd?

(3) I know that, when I filed my petition, on January 25th, the NRC staff had

considered merging it with my prior petition, which was filed on November 15, 2016. It was deemed, at that time, that the two petitions were dissimilar enough to required separate evaluations, and scheduled accordingly. Nevertheless, by August, you had reached back to my petition of November 15, 2016, and used it to claim that the issues of this petition had already been considered and resolved. In effect, you combined the two petitions, anyway. Please explain how another PRB's evaluation of my petition of November 15, 2016 has become relevant to your evaluation of this petition?

(4) The two PRBs relied upon the report of the Backfit Appeal Review Panel (BARP), dated August 23, 2016 (ADAMS Accession No. ML16236A208), to "resolve" many of the issues raised in the petitions. During the meeting of May 23rd, in response to one of your questions, I stated that the BARP's report is irrelevant, since it focuses upon the pressurizer safety valves' (PSV) reliability and performance, and fails to recognize that these same PSVs are not suitable (or even available) for use during anticipated operational occurrences (AOOs). The details are in the petitions, the transcripts, and elaborated in the attachment to this message. In its report, the BARP members admit that their conclusions were based upon an engineering judgment (i.e., an educated guess). An engineering judgement, even a "well-informed" engineering is still just a guess. Maybe, in this case it would be a "well-educated" guess. That guess, BTW, is demonstrably wrong. Furthermore, it's clear that the BARP's method and outcome could not meet the Daubert Standard (see *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Yet, both PRBs have cited the BARP's position as if it were some sort of rule. Please justify your reliance upon the BARP's position, even after you were informed, repeatedly, that it's wrong, and consequently, irrelevant.

(5) The memorandum dated January 3, 2017 (ADAMS Accession No. ML16334A188), the Director of NRR provided the plan details and target dates for implementation of a plan to address certain technical issues in Westinghouse's NSAL 93-013. All of the four target dates, in that memorandum, have passed. (The latest date was June 30th.) What are the details of the plan that should have been developed by those dates?

(6) Two items, listed in the memorandum, are open-ended; and dependent upon completion of the previous, planned items. What is their status?

(7) On July 19, 1994, a low steam generator level scram, at Calvert Cliffs, Unit 1, resulted when all four main turbine stop valves closed unexpectedly. During this transient (an AOO), both power-operated relief valves (PORVs) lifted, and a PSV lifted below its setpoint. This means that the PSV lifted at about the PORV's opening setpoint, which is more than 100 psi below the opening setpoint of the PSV. The PSV relieved steam (not water), and then failed to fully reseat. This caused the quench tank rupture disk to rupture. (See NUREG-1272, Vol 9, No 2) Ironically, the opening of a PSV, under these circumstances, could have been effective in preventing the AOO from developing into a more serious event.

Although the BARP pronounces the PSVs to be absolutely reliable, even after relieving water, it allows that the PSVs might fail to reseat completely. The BARP claims that the resulting leakage would be less than or equal to the flow rate through

one stuck open PSV, an analysis of which is reported in Chapter 15 of all PWR FSARs. However, this analysis is not reported in any FSARs. This PSV leakage, according to the critical flow calculations, which I presented, and described in the attachment, could exceed one million pounds of water per hour! Explain how a leakage of this magnitude can be considered to be an acceptable outcome for any AOO. Estimate how long it would take to repair and/or replace three PSVs, replace the quench tank rupture disk, and clean up the spillage of radioactive, borated water in the containment (i.e., estimate how long it would take to resume normal power operation).

(8) Without postulating the excessive PSV setpoint drift that was reported in the aforementioned incident, please explain how any PSVs, even if they're qualified for water relief duty to the strictest of ASME standards, could possibly be used to demonstrate that an AOO (a Condition II event) cannot develop into an accident of a more serious, Condition III or IV category.

(9) The BARP report claims that the NRC staff had not made an error, when they accepted Exelon's claim that its Byron and Braidwood PSVs would not fail to reseat after having relieved water. The BARP report goes on to state, "In the absence of an assumed failure of the pressurizer safety valve to reseat, the concerns articulated in the backfit related to event classification, event escalation, and compliance with 10 CFR 50.34(b) and General Design Criteria 15, 21, and 29 are no longer at issue." The BARP realized that, in order to make the use of PSVs a viable option, it was necessary to set aside the requirements of 10 CFR 50.34(b) and General Design Criteria 15, 21, and 29. Exelon had not asked for this, and the NRC staff's safety evaluation had not allowed this. So Exelon's LAR, and the NRC staff's evaluation were both incomplete. It seems the BARP had to correct the error the NRC staff did not make.

Suppose the original LAR, from 2001, had followed through with a request for an exemption from the requirements of 10 CFR 50.34(b) and General Design Criteria 15, 21, and 29, in order to support the proposed use of PSVs, then would the NRC staff have approved it? Has the NRC staff ever approved a request like this?

(10) The "review" that the BARP describes is not an objective evaluation. It's a literature search that produced 97 references, only about a dozen of which were actually cited in the body of the report. One reference that was conspicuously missing was *Strategies to Prevent Benign Transients from Becoming Serious Accidents*, Samuel Miranda, Paper No. ICONE24-60472, pp. V002T08A004; 14 pages, doi:10.1115/ICONE24-60472, © ASME, copy available at -- http://proceedings.asmedigitalcollection.asme.org/proceeding.aspx?articleid=2577045. This paper, which was published two months before the BARP report, explains why use of PSVs cannot be a viable option in any strategy to prevent an AOO from developing into a more serious event. Why was this paper not among the BARP's 97 references? Why was this paper not considered in either of the PRBs' evaluations of my petitions?

In summary, Exelon's lawyers have succeeded in convincing the BARP, the NRC staff, and the EDO that the "known and established" standard is the water qualification of the PSVs, not the prevention of serious accidents that originate as AOOs. Exelon's "known and established" standard supersedes a design requirement that was adopted by all licensees, since it was published in 1973, and incorporated into their licensing bases, where it remains to this day.

The “known and established” terminology comes from NUREG-1409. Legally binding regulatory requirements are stated only in laws; NRC regulations; licenses, including technical specifications; or orders, not in NUREG-series publications. So, a “known and established” standard, from a NUREG publication, cannot supplant a written license commitment. I maintain that the controlling “known and established” standard is, and has always been, the design requirement of 1973 that is referenced in licensees’ licensing bases.

Sincerely,
Sam Miranda, PE