UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
Before the Atomic Safety and Licensing Board

In the Matter of: ) Docket No. 50-346-L
FirstEnergy Nuclear Operating Company ) October 10, 2014
Davis-Besse Nuclear Power Station, Unit 1 )

INTERVENORS’ REPLY IN SUPPORT OF MOTION TO AMEND AND SUPPLEMENT
CONTENTION NO. 7 ON WORSENING SHIELD BUILDING CRACKING AND
INADEQUATE AMPs IN SHIELD BUILDING MONITORING PROGRAM

Now come Beyond Nuclear, Citizens Environment Alliance of Southwestern Ontario
(CEA), Don’t Waste Michigan, and the Green Party of Ohio (collectively, Intervenors), by and
through counsel, and reply in support of their “Motion to Amend and Supplement Contention
No. 7 on Worsening Shield Building Cracking and Inadequate AMPs in Shield Building
Monitoring Program.” Specifically, Intervenors herein respond to “FENOC’s Answer Opposing
Admission of Intervenors’ Original and Amended Contention No. 7” of FirstEnergy Nuclear
Operating Company (“FENOC Answer”) and the “NRC Staff’s Answer to Intervenors’ Motion
for Admission of Contention No. 7 on Worsening Shield Building Cracking and Inadequate
AMPs in Shield Building Monitoring Program” (“Staff Answer”) filed by the NRC Staff.

A. Reply to NRC’s claimed lack of new and materially different information

The Staff misleadingly maintains that “Intervenors have not shown that Contention 7 is
based on new and materially different information.” Staff Answer at 16. It is clear that the Shield

-1-
Building problems of today are cumulatively and causally different from those identified in 2011-2012. FENOC acknowledges that a significant mistake was made by painting the Shield Building, which has blocked the release of moisture from the outer 10" of concrete of the Shield Building. As a consequence, the Shield Building wall is saturated. And each time its walls freeze, another 0.4 to 0.7 inches of crack growth occurs on each and every crack, FENOC has now admitted, due to ice-wedging crack propagation.

Additionally, FENOC’s consultant, Performance Improvement International (“PII”), has acknowledged more than one cause of the cracking, and now agrees that not all cracks are visible to the naked eye. The latest, “apparent” root cause pronounced by PII - “ice-wedging” cracking propagation - clearly identifies the Shield Building cracking as aging-related. Consequently the Licensing Board may now juristically accept that there is ongoing structural degradation of the Shield Building which will require monitoring, mitigation, intrusive investigation and analysis for years to come, well into the 20-year license extension period. There surely is new information which should make a material difference in the ASLB’s assessment of Contention 7's suitability for admission into this proceeding.

Intervenors remind the Board that PII’s September 11, 2013 “FACE” - “Full Apparent Cause Evaluation,” and the ascertainment of water saturating the Shield Building, which in turn causes ice-wedging and more cracking, are “new” facts to Intervenors, and also that this critical information was kept from public view as to the saturation problem for two (2) years; and as to the differential root cause, until July 2014. This four-year-old LRA adjudication is near its close, and it is oddly coincidental that two significant Shield Building discoveries were not divulged to the public, particularly in light of Beyond Nuclear’s standing FOIA request for information to the
NRC Staff which dates to 2012. This new engineering evidence suggests that Shield Building cracking continues to threaten the continued viability and usefulness of the structure itself, sufficient to add to the serious questions about granting a 20-year extension of Davis-Besse’s operating license.

A. The Shield Building Purposes

The NRC Staff maintains that the Shield Building exists to protect the nuclear reactor inside it from accidents originating from outside. Staff Answer at 5. But the building also has an “Emergency Ventilation System” through which radioactive vapors and volatile particulates would be deliberately allowed to flow into the outside biosphere in the event of a nuclear reactor accident and an accompanying pressure buildup within the reactor containment structure. The Staff asserts that the steel containment vessel inside the Shield Building protects the outside environment from radiation inside the reactor. Id. Nonetheless, the Shield Building fills a role in protecting the external environment from radiation leakage, as well as shielding the reactor from external threats. This is a 30-inch-thick, rebar-reinforced, huge cylindrical structure; trivialization of its functions belies the reasons it exists.

The Shield Building also is supposed to serve as a “biological shield,” both during normal operations, and during accident conditions. This means that the building provides biota, which includes human beings, from penetrating radioactivity, such as neutrons and gamma radiation, by serving as radiation shielding to the external environment.

B. Ice-Wedging Is New, Not Old, News

The NRC Staff Answer rationalizes that “the Shield Building Monitoring AMP explicitly indicated that it would examine potential aging mechanisms related to freezing of water that has
permeated the concrete structure, corrosion of the rebar, and coating effectiveness,” and that a cracking phenomenon called “ice-wedging” has, consequently, been identified. Staff Answer at 18.

The Staff’s Answer implies that this new, materially different information is neither of those things. But ice-wedging has been identified as the result of the act of painting the Shield Building, which has caused the water saturation of the outer 10" of concrete and so ice is a new, maybe even premier, cause of cracking propagation. Perhaps the Staff knew this two years ago when FENOC discovered the apparently unforeseen saturation problem (and did not mention it publicly for that entire period), but ice-wedging is new and materially different from the public understanding hitherto, since it was disclosed to the public only in July 2014: PII concluded in its “Full Apparent Cause Evaluation” (hereinafter “FACE”), included with FENOC’s RAI response letter dated July 3, 2014\(^1\) that coating the outer walls of the Davis-Besse Shield Building has “prevented a finite amount of moisture from leaving the structure. Until this moisture dissipates it contributes to the water accumulation mechanism required for Ice-Wedging.” *Id.* at 35/98 of .pdf. That is “new and materially different information.” 10 C.F.R. § 2.309(f)(2). While the NRC Staff pillories Intervenors for pressing to have a legal say in the scope, methods and approaches of the Shield Building Monitoring Aging Management Plan (“AMP”), the Staff admits that “the Shield Building Monitoring AMP, as modified by FENOC’s July 3, 2014 submittal, *still indicates that it will identify and/or examine potential aging mechanisms.*” (Emphasis added). So the Staff and FENOC presently (and finally) acknowledge

\(^\text{1}\)NRC ADAMS No. ML14189A452.
that the cracking problem is not isolated, nor discretely solved.

The Staff does not comprehend that the years of recurring incompetence and denial manifest in Davis-Besse’s structural, safety, and facilities management inadequacy crises - where there repeatedly are incompetent responses and a lack of candor with the public, coupled with utility and/or agency minimizations of the scope, causation and safety significance of the particular crisis - have undermined public confidence that there are genuine, “reasonable assurances” that the plant can continue to function safely for 20 more years.

C. Calling Cracking a ‘Current Operating Concern’ Is a Diversionary Conceit

Repeatedly, the Staff scores Intervenors for transmuting what the Staff calls “current operating concerns” about the Shield Building into a longer-term problem. The Staff offers this conclusion:

[T]he operation of Davis-Besse from now through April 22, 2017 is a current operating issue, not a license renewal issue. Likewise, the ability of the shield building to perform its intended function is a current licensing issue, not an issue unique to license renewal. Similarly, Intervenors’ claims about the structural integrity of the shield building are an out-of-scope current operating issue.

And so the Staff argument fragments the evidence of the fragmenting Shield Building, atomizing the facts to argue that there is nothing remarkable about a unique engineering challenge that could become a structural catastrophe, the root cause(s) of which are still evolving and being investigated. Ongoing cracking, unremedied by the act of painting the Shield Building, is now believed to have, in reality, been exacerbated by it. There is water in the walls of the building, as revealed in investigatory core bore holes, which promises to cause more “ice-wedging,” hence more cracking. This is today’s problem, but when it persists into the first day of a 20-year extension on April 23, 2017, FENOC and the Staff will claim that waterlogging and
associated crack propagation is a “current” problem while the Shield Building cracking persists, unresolved, for decades. The current timeline for resolution requires years of monitoring of only limited, targeted parts of the Shield Building to discern whether the cracking - which PII findings suggest will continue, actually continues. Though FENOC and the NRC Staff no longer insist that the cracking problem has been “solved,” the Staff clings to the view that recurring cracking phenomena do not indicate long-term deterioration nor raise structural concerns. Yet FENOC’s creation of AMPs for the Shield Building recognizes that these “current operating concerns” are destined to remain “current concerns” throughout the 20-year extension period. Water buildup may have been a “current operating concern” when saturation of the outer 10” of concrete was discovered two years ago; but at some point it is chronic and challenges FENOC’s ability to meet the CLB expectations during the license extension period of 2017-2037.

D. ‘Relitigation’ of Contentions 5 and 6

1. Contention 7 Lays the Foundation of Information

On Cracking Using Contentions 5 and 6

In its critique of the supposed untimeliness of Contention 7’s filing, the NRC Staff incessantly suggests that Intervenors are merely trying to “rehash” and “relitigate” Contentions 5 and 6. Contention 5 was the 2012 series of motion compilations Intervenors filed on Shield Building cracking, based on FOIA documents provided Intervenors. Contention 6 was the 2014 challenge Intervenors brought, alleging concrete voids and rebar defects caused during the 2011 sealing up of the Shield Building and the new breach in late winter 2014. See Staff Answer at

---

2. The initial contention filing was on Jan. 10, 2012. The first supplement, on Feb. 27, 2012, was in response to FENOC's Blizzard of 1978 root cause report. The second supplement, of June 4, 2012, was in response to FENOC's initial SB AMP. The next three supplements, on July 16, July 23, and August 16, were based on NRC's FOIA response.

-6-
14, 16, 25-26 (“rehash”); 3, 11, 55-59 (“relitigate”). The rehash/relitigate mantra is the Staff’s attempt to negate Intervenors’ logical presentation of history - FENOC’s cracking denial, Staff and Utility misinforming of the public, and FENOC’s bungled remediation, for example. An understanding of this history is prerequisite to analysis of new cracking discoveries, new, now “apparent,” root causes, and the belated insights acquired by FENOC and the NRC Staff once denial of the true nature and extent of the cracking problems proved to be a poor approach.

Incorporation by reference is a common, efficient means of creating a record on which to litigate. Rule 10(c) of the Federal Rules of Civil Procedure, which are constantly looked to by the NRC for procedural guidance,3 states that “A statement in a pleading may be adopted by

---

3F.R.C.P. authorities and court decisions pertaining to Rule 26 of the Federal Rules of Civil Procedure provide appropriate guidelines for interpreting NRC discovery rules. Allied General Nuclear Services (Barnwell Fuel Receiving and Storage Station), LBP-77-13, 5 NRC 489 (1977); Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), LBP-83-17, 17 NRC 490, 494-95 (1983), citing Toledo Edison Co. (Davis-Besse Nuclear Power Station), ALAB-300, 2 NRC 752, 760 (1975).

If there is no NRC rule that parallels a Federal Rule of Civil Procedure, the Board is not restricted from applying the Federal Rule. While the Commission may have chosen to adopt only some of the Federal Rules of Practice to apply to all cases, it need not be inferred that the Commission intended to preclude a Licensing Board from following the guidance of the Federal Rules and decisions in a specific case where there is no parallel NRC rule and where that guidance results in a fair determination of an issue. Seabrook, supra, 17 NRC at 497.

Where an NRC Rule of Practice is based on a Federal Rule of Civil Procedure, judicial interpretations of that Federal Rule can serve as guidance for the interpretation of the analogous rule. Louisiana Energy Services (Claiborne Enrichment Center), LBP-93-3, 37 NRC 64, 68-69 (1993) (citing Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), LBP-83-17, 17 NRC 490, 494-95 (1983). See also Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-82-82, 16 NRC 1144, 1159-62 (1982).

reference elsewhere in the same pleading or in any other pleading or motion.” Indeed, incorporation by reference is explicitly recognized in the NRC’s procedural regulations. See 10 CFR § 30.32(a) (“Information contained in previous applications, statements or reports filed with the Commission or the Atomic Energy Commission may be incorporated by reference, provided that the reference is clear and specific”); see, also, 10 CFR 70.21(A)(3) (“Information contained in previous applications, statements, or reports filed with the Commission may be incorporated by reference if the references are clear and specific”).

2. There is No Res Judicata Effect Implicit in the ASLB Rejection of Contentions 5 and 6

The NRC Staff appears to be arguing something akin to the bar of res judicata - that since Contentions 5 and 6 dealt with shield building cracking, and both were decided against Intervenors, the question of Shield Building cracking may not be raised ever again in this proceeding, even in the face of new and troubling information about the cracking which has portents for the license extension period. Notably, the Staff does not directly assert the bar of res judicata, but relies instead on innuendo. Res judicata does not attach when the foundation for a proposed action arises after the prior ruling advanced as the basis for res judicata. Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 & 2), ALAB-349, 4 NRC 235 (1976). Collateral estoppel precludes relitigation of issues of law or fact which have been finally adjudicated by a tribunal of compe-

tent jurisdiction. *Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Units 1, 2, & 3), ALAB-378, 5 NRC 557, 561 (1977); *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 & 2), ALAB-182, 7 AEC 210, *remanded on other grounds*, CLI-74-12, 7 AEC 212 (1974).


Where circumstances have changed (as to context or law, burden of proof or material facts) from when the issues were formerly litigated or where public interest calls for relitigation of issues, neither collateral estoppel nor *res judicata* applies. *Farley, supra*, ALAB-182, 7 AEC at 203; *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 & 2), LBP-77-20, 5 NRC 680 (1977); *Gen. Pub. Util. Nuclear Corp.* (Three Mile Island Nuclear Station, Unit 1), LBP-86-10, 23 NRC 283, 286 (1986); *Toledo Edison Co.* (Perry Nuclear Power Plant, Unit 1; Davis-
E. ‘Good Cause’ Exists for the Contention Filing on September 8

The Staff makes a great deal out of the supposed lack of “good cause” for what it calls a late filing (Staff Answer at 24-27). At Staff Answer p. 24, the NRC Staff launches the surprising argument that “Intervenors’ proposed Contention 7 should be dismissed because Intervenors have not successfully challenged the Shield Building Monitoring AMP without these enhancements.” The Staff maintains that “Intervenors failed to adequately challenge the Shield Building Monitoring AMP when it was first introduced,” and cite Amergen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235 (2009) (“Oyster Creek”) as support. The Staff somehow missed the six filings on Davis-Besse Shield Building cracking tendered by Intervenors in 2012, some of which alleged specific deficiencies with the AMP. The Staff fails fatally to explain how Intervenors failed of their “regulatory obligation to challenge” the AMP in their first round of Shield Building challenges in 2012. The flaw in the Staff’s argument is that Intervenors filed six motions and memoranda consisting of some 200 pages of factual recitation along with argument. Intervenors also filed dozens of pages of exhibits on which they relied in their six Shield Building motions.

Intervenors definitely took advantage of earlier information and opportunities to challenge the Shield Building AMPs (which Intervenors most certainly did, repeatedly, in 2012, most notably with “Intervenors’ Motion to Amend and Supplement Proposed Contention No. 5
The Staff also claims that there was no new information cited by Intervenors. However, the “new information” Intervenors included in their September 2014 filings included the hitherto-unknown information about the water saturation of the outer 10" of Shield Building Concrete and the new, improved root cause findings, information which was concealed or withheld from public accessibility by FENOC (and perhaps the Staff) for two years, and for 9 months, respectively.

The availability of new information provides good cause for late intervention. The test is when the information became available and when the petitioner reasonably should have become aware of the information. The petitioner must establish that (1) the information is new and could not have been presented earlier, and (2) the petitioner acted promptly after learning of the new information. *Texas Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Units 1 & 2), CLI-92-12, 36 NRC 62, 69-73 (1992). See *Texas Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Unit 2), CLI-93-4, 37 NRC 156, 164-65 (1993); *Amergen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-22, 64 NRC 229, 234 (2006); *Crow Butte Res., Inc.* (North Trend Expansion Project), LBP-08-6, 67 NRC 241 (2008).

By filing within the 60 days following discovery of the existence of this momentous new information, the Staff’s suggestion of untimeliness is a bit galling, since it was FENOC’s counsel who expressly brought the FACE to the ASLB’s and Intervenors’ attention. Obviously FENOC considered the information to be new and important, to have gone to the trouble of expressly

---

4http://www.beyondnuclear.org/storage/June%204%202012%20Motn%20to%20Amend%20Supp%20Cont%20%20COMPLETE-1.pdf
transmitting it to the ASLB.

F. The More Serious Potention Shutdown Is Not of the Reactor, But of Criticism of Current CLB Arrangements

At page 52 of the Staff Answer, the NRC Staff questionably pronounces that “If the shield building was not operable, then the plant must shut down and correct the problem to operate,” citing 10 C.F.R. § 54.30 as authority. (Emphasis supplied). But § 54.30 says nothing about shutting down a licensed, operating facility. Instead, it protects licensees from criticism or legal challenges during the current license period related to the licensee’s efforts to return the reactor to its current licensing basis (CLB) before the 2017 effect date of Davis-Besse’s license renewal. The NRC Staff has difficulty imposing a regime of faithful CLB adherence by FENOC. In 2002, the NRC Staff Director declined to order the shutdown of a bulging, dangerously close-to-rupturing reactor head at Davis-Besse which NRC Staff engineers had assessed was in a dangerous state. The historic record of Davis-Besse CLB noncompliance oversight by the Staff simply does not exist. The Staff has ignored the advice of its own engineers, witness the NRC Inspection Report covering the period December 1, 2011 through May 9, 2012, referenced in Intervenors’ initial filings as an internal (Riley) email; the NRC Staff confirmed that the Shield Building cracking meant that the building failed to meet its licensing basis:

§ 54.30 states: “(a) If the reviews required by § 54.21 (a) or (c) show that there is not reasonable assurance during the current license term that licensed activities will be conducted in accordance with the CLB, then the licensee shall take measures under its current license, as appropriate, to ensure that the intended function of those systems, structures or components will be maintained in accordance with the CLB throughout the term of its current license.

(b) The licensee's compliance with the obligation under Paragraph (a) of this section to take measures under its current license is not within the scope of the license renewal review.”
For the Direct Cause CA No. 2, the licensee will develop an engineering plan to **re-establish design and licensing basis for the SB**. Hence, the licensee will meet their procedure requirements for addressing the Direct Cause (Reference NOBP-LP-2011, "FENOC Cause Analysis"). Based upon the proposed actions and ongoing NRC reviews for this area, the NRC team concluded that the continued capability of the SB to perform the design safety functions would be assured. In particular, the NRC LRA reviews will include an evaluation of the program for monitoring of the shield building cracking. The NRC team also confirmed that the licensee had assigned site staff (e.g., owners) to each Direct Cause CA with reasonable due dates.

(Emphasis added). ADAMS no. ML12173A023. Other evidence of the Shield Building’s CLB noncompliance\(^6\) includes:

> Document B/23 [11/17/11; Davis-Besse Containment System Primary Steel Containment and Shield Building. (1 page)], at p. 28/101 on .pdf counter, which contains the statement that “[t]he shield building was designed to withstand forces generated by design bases seismic events,” but this assertion is challenged, if not outright undermined, by Document B/1’s revelations. Intervenors cited NRC’s admission, “The existing as-found condition of cracking in the concrete of the shield building has raised questions on the ability of the structure to maintain its ability to perform its design functions under conditions that would introduce active forces (such as a seismic event or potentially rapid changes in the environmental conditions),” as supportive of its call for a hearing on the merits of these issues.

> At pp. 41-42 from Intervenors’ Document B/26 [11/22/11; Email from A. Sheikh, NRR to E. Sanchez Santiago, RIII on Questions for the Conference Call. (1 page)] [beginning on Page 39 of 101 on PDF counter], at p. 41 [NRC staffer] Sheikh states: “The licensee is using numerous assumptions in his summary report and calculations that are not described in the UFSAR and

\(^6\)Intervenors cited this information in their initial Contention 7 filings; it first appeared in “Intervenors’ Fifth Motion To Amend and/or Supplement Proposed Contention No. 5 (Shield Building Cracking)” (August 16, 2012).
ACI 318-63, and still calls it a design basis calculation. Can the licensee provide justification for this approach.”

> From Intervenors’ Document B/36 [12/02/11; Email from B. Lehman, NRR to S. Sakai, NRR et al. FW: Davis Besse POP. (2 pages)] [which begins at Page 52 of 101] [commencing at Page 55 of 101 on PDF counter]: “The licensee still has unresolved questions to answer regarding the design basis of the plant. Basically, when the SB was built the requirements and codes it was built under were for an uncracked building. Because the building is now cracked, the question of whether the SB still meets the requirements as stated in the FSAR [Final Safety Analysis Report] and licensing basis needs to be evaluated.”

> In Intervenors’ section discussing Document B/44 [12/13/11; Email from M. Galloway, NRR to A. Sheikh, NRR et al., RE: Davis-Besse Shield Building. (1 page)], at Page 66/101 on .pdf counter, they observed that “Abdul Sheikh admits ‘Davis Bessee [sic] shield building has not been designed for containment accident pressure and temperature.’” Abdul Sheikh, a Staff engineer well familiar with the cracking problem and the uses for which the Shield Building exists, stated in Document B/26 that “I am concerned that the concrete will fail in this region due to bending in this region even under small loads.”

While the above observations were comments about Davis-Besse’s current (pre-April 22, 2017) CLB compliance, management of the effects of aging during the 2017-2037 license extension period at Davis-Besse must “continue to be conducted in accordance with the CLB, and that any changes made to the plant's CLB in order to comply with this paragraph [must be] in accord with the
Act and the Commission's regulations.’’ 10 C.F.R. § 54.29.7 Instead, FENOC and the NRC Staff have made conjectural arrangements commencing in 2017 to be predicated upon information learned about the cracking which FirstEnergy has not yet identified (much less absorbed).

A commitment to develop a program - and FENOC has only a plan to have a plan by the time the 20-year extension begins - does not demonstrate that the effects of aging will be adequately managed. Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, 68 NRC 43, 86 (2008). Notwithstanding the NRC Staff’s and FENOC’s insistence that current response activities to the cracking are irrelevant, the “reasonable assurance” findings required by 10 C.F.R. § 54.29(a) are founded upon past, present and future actions - actions that “have been or will be taken.” Entergy Nuclear Vermont Yankee, LLC and Energy Nuclear Operations, Inc., (Vermont Yankee Nuclear Power Station) CLI-10-17, 71 NRC ___ (July 8, 2010) (slip op. 44). Perhaps the Staff and FENOC argue so vigorously that the Board may not look at actions that “have been . . . taken” because the present arrangements lack credibility. After all, issues of root cause, the degree of investigation to yield adequate information, the prospective monitoring needed to understand the condition of the Shield

710 C.F.R. § 54.29 states: “A renewed license may be issued if the Commission finds that:

(a) Actions have been identified and have been or will be taken with respect to the matters identified in Paragraphs (a)(1) and (a)(2) of this section, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB, and that any changes made to the plant's CLB in order to comply with this paragraph are in accord with the Act and the Commission's regulations. These matters are:

(1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under § 54.21(a)(1); and

(2) time-limited aging analyses that have been identified to require review under § 54.21(c);

(b) Any applicable requirements of Subpart A of 10 CFR Part 51 have been satisfied.

(c) Any matters raised under § 2.335 have been addressed.
Building, and what is necessary to remediate past cracking - these questions are either not answered sufficiently, or are going completely unasked, or implementation has been bungled badly.

For those structures, systems and components (“SSCs”) subject to aging management review that are not current licensing basis (CLB) issues, evidence of proposed inspection and monitoring details comes before the ASLB only insofar as they may be necessary to demonstrate that the applicant’s AMP does or does not achieve the desired goal of providing assurance that the intended function of relevant SSCs discussed herein will be maintained for the license renewal period. *Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations Inc.* (Vermont Yankee Nuclear Power Station), LBP-08-25, 68NRC 763, 786 (2008); *Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 & 3)*, LBP-08-13, 68 NRC 43, 81 (2008). But Davis-Besse poses CLB issues, which makes the converse true: Contention 7 must be adjudicated by the Board, not as a determination of the adequacy of present CLB activities, but to ascertain whether there is reasonable assurance that the present CLB efforts will tandem into the obligatory Shield Building CLB activities of 2017-2037.

Whether Davis-Besse’s Shield Building meets its CLB is a source of much controversy. Although Intervenors may not question within this license renewal proceeding FENOC’s day-to-day attempts at CLB compliance between now and April 22, 2017, the Board nonetheless is constrained to note the dubious CLB compliance situation today (actions that “have been . . . taken” per 10 C.F.R. § 54.29(a)) in developing the factual foundation for the determination it must make concerning whether FENOC has demonstrated the requisite “reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance
with the CLB...” The Shield Building is decades beyond status as a pristine structure, and its cracking was exacerbated over the past two years by the decision to paint the building, 40 years too late, in 2012. FENOC has learned in only the past two years that the outer concrete is water-saturated, 10" deep. FENOC now recognizes ice-wedging as a new, additional root cause of cracking - and it was prompted by the supposedly remedial paint job. Despite this troubling major new development, all FENOC offers by way of aging management response is to undertake 23 core bores (3 more than postulated in 2012, and drilled into presumably saturated concrete where the saturation was caused by painting). Further, visual inspections to identify cracking (including, one supposes, cracking not visible to the unaided eye) are to be undertaken annually only until 2018. The core borings will be taken adjacent to presently-identified cracking, and not more randomly, especially in areas where cracking has not been assayed in scientific depth. FENOC continues to evade the major project of conducting a structure-wide assessment which is essential to having as complete an understanding as possible of the extent of cracking damage from multiple root causes, in multiple locations, with synergistic effects on the SB's structural integrity and ability to meets its design safety functions. FENOC persists in evasion and denial despite mounting evidence that earlier root cause analysis has been speculative and incomplete, and after learning that the paint job to erase the effects of the Blizzard of ‘78 has, to the contrary, created an entirely new contributing cause to the cracking.

Even FENOC’s consultant, PII, postulates that the when Shield Building exterior walls freeze during the winter season, another 0.4 to 0.7 inches of circumferential ice-wedging crack spreading takes place. This aging-related problem is all new; the original, February 2012 Root Cause Analysis predicted no worsening of the then-known cracks. The prediction is now
completely the opposite: the cracking will get worse with each winter freeze-thaw cycle. Yet FENOC offers no AMP-based remediation, but instead, only observation and investigation. While FENOC and the Staff share the Staff’s view (Staff Answer at 20) that “the root cause of the laminar cracking has not changed,” what has changed is FENOC's position on crack propagation. The July 2014 “apparent cause” revelations are significant information because PII provides a new root cause explanation of crack propagation, and its significance (10.8 inches per year of new growth). Also, the FACE contains an explicit admission of micro-cracking, thanks to belated electron scan microscope testing, along with the associated, implicit admission that ice-wedging crack propagation will occur in the micro-cracks as well. This type of crack propagation was predicted by Intervenors in 2012, without the benefit of electron scan microscopes.

The FACE evaluation - the new, improved, “apparent” cause, circulated in July 2014 to the Board and Intervenors, amounts to a set of expert opinions which buttress Intervenors’ position that “reasonable assurance” is missing. FENOC’s modifications to its Shield Building Monitoring Program AMPs, regarding the scope (areas of the Shield Building to be examined), sample size (number of tests to be performed), and the frequency of its surveillance activities, remain inadequate. Significantly more core bores, as well as a broader diversity of complementary testing methods, are prerequisites to a finding of adequate assurance at this late date. The cracking phenomena must be identified, analyzed and addressed within the Final Supplemental Environmental Impact Statement for the license renewal, both as part of the Severe Accident Mitigation Alternatives analysis (SAMA) and as part of the consideration of alternatives to a 20-year operating license extension.
CONCLUSION


The Commission has explained that the requirement at § 2.309(f)(1)(v) “does not call upon the intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention.” *Pilgrim* at 84. Undeniably, a petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner, so long as the admissibility requirements are found to have been met. The admissibility requirement “generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.” *Id.*
One final observation: The date of filing of this memorandum, October 10, 2014, marks the Third (3rd) Anniversary of the discovery of Shield Building cracking. FENOC’s, the NRC’s and ultimately, the public’s, understanding of its causes and its remediation continue to marinate in uncertainty. FENOC has not articulated the stuff of “reasonable assurance,” and Intervenors urge the ASLB to admit Contention 7 to this proceeding so that they may prove that there is none.

WHEREFORE, Petitioners pray the Atomic Safety and Licensing Board panel allow the amendments and supplementation as explained above, and that it admit Contention 7 as amended and supplemented for full adjudication.

Executed according to 10 C.F.R. § 2.304(d)

/s/ Terry J. Lodge
Terry J. Lodge (Ohio Bar #0029271)
316 N. Michigan St., Ste. 520
Toledo, OH 43604-5627
Phone/fax (419) 255-7552
tjlordge50@yahoo.com
Counsel for Intervenors
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
Before the Atomic Safety and Licensing Board

In the Matter of: ) Docket No. 50-346-L
FirstEnergy Nuclear Operating Company ) October 10, 2014
Davis-Besse Nuclear Power Station, Unit 1

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing “INTERVENORS’ REPLY IN SUPPORT OF MOTION TO AMEND AND SUPPLEMENT CONTENTION NO. 7 ON WORSENING SHIELD BUILDING CRACKING AND INADEQUATE AMPS IN SHIELD BUILDING MONITORING PROGRAM” was deposited in the NRC’s Electronic Information Exchange this 10th day of October, 2014 and was served upon all parties of record.

Executed in Accord with 10 C.F.R. § 2.304(d)

/s/ Terry J. Lodge
Terry J. Lodge (Ohio Bar #0029271)
316 N. Michigan St., Ste. 520
Toledo, OH 43604-5627
Phone/fax (419) 255-7552
tjodge50@yahoo.com
Counsel for Intervenors