

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

In the Matter of)	
)	Docket No. 50-346-LR
<i>First Energy Nuclear Operating Company</i>)	
(Davis-Besse Nuclear Power Station, Unit 1))	June 4, 2012
)	

* * * * *

**INTERVENORS' MOTION TO AMEND AND SUPPLEMENT
PROPOSED CONTENTION NO. 5 (SHIELD BUILDING CRACKING)**

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 move the Board to allow them to supplement and amend their proposed Contention No. 5, which addresses the shield building cracking phenomena at the Davis-Besse Nuclear Power Station ("Davis-Besse").

/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
tjlodge50@yahoo.com

Counsel for Intervenors

MEMORANDUM

A. Background

On January 10, 2012, Intervenors moved for admission of a new Contention No. 5, which states:

Intervenors contend that FirstEnergy's recently-discovered, extensive cracking of

unknown origin in the Davis-Besse shield building/secondary reactor radiological containment structure is an aging-related feature of the plant, the condition of which precludes safe operation of the atomic reactor beyond 2017 for any period of time, let alone the proposed 20-year license period.

The NRC Staff has proposed alternative wording which would transform the contention into a contention of omission. FENOC and the Staff timely responded to the original contention motion.

On February 27, 2012, First Energy Nuclear Operating Company (“FENOC”) furnished the NRC with its “Root Cause Analysis Report” (“Root Cause Analysis” or “RCA”), ML 120600056. Then, on April 5, 2012, FENOC detailed its “aging management plan” to address shield building cracking in a “Reply to Requests for Additional Information” (ML12097A216), purportedly to provide management over time of the shield building’s historic cracking phenomena. For convenience’ sake, Intervenors will refer to this April 5 item as “RAI AMP.”

Intervenors are supplementing their cracking contention for the purpose of exposing discrepancies between FENOC’s February 27, 2012 “Root Cause Analysis Report” (“Root Cause Analysis” or “RCA”), and the RAI AMP. They reserve the right to provide further supplementation of their motion in support of proposed Contention 5 upon further review of the Revised Root Cause Analysis and Performance International’s analysis. They further reserve the right to supplement their contention filing with evidence from a FOIA response anticipated from the NRC Staff which was propounded to the agency on or about January 26, 2012.

B. Issues of Fact And Inconsistencies Between Root Cause Analysis And RAI AMP

1. FENOC’s Credibility Is Increasingly Suspect

The RAI AMP has already been rendered suspect. In May, FENOC placed in the record “Revision 1 of Shield Building Root Cause Evaluation” (ML12142A053) and Performance

Improvement International's "Root Cause Assessment, Davis-Besse Shield Building Laminar Cracking" report (ML12138A037). Each contains troubling new information suggestive of lifelong structural and cracking idiosyncrasies at Davis-Besse, and they prove that the Aging Management Plan must be scrutinized for whether it genuinely addresses the complex troubles with the shield building. A growing body of facts undermines confidence in management arrangements for the shield building, while public concerns about the physical integrity of the building as a containment structure snowball.

The NRC staff itself has recently demonstrated why the RAI AMP should be held suspect. On May 25, 2012, the Union of Concerned Scientists complained to the NRC Region III director (letter attached) that the extensive revisions that were required to be made to the February RCA (resulting in the May 2012 Revised RCA) were made only because FENOC's incomplete and erroneous information in the February RCA was caught and corrected by the NRC staff during inspection activities. David Lochbaum, a nuclear engineer, noted in the complaint that "Had the information been deemed by the NRC to either be complete and accurate or be incomplete/inaccurate but immaterial during its inspections, the re-submittals of the root cause assessment and root cause evaluation would not have been necessary. The re-submittals under these circumstances constitute *prima facie* evidence that FENOC violated §50.9."

But there is a larger question. Even though NRC - for some reason - forced FENOC to revise its February 2012 RCA to explain why it had not weather-sealed its shield building, FENOC still has not explained why. At page 5 of its May 16th revision (ML12142A053), the NRC Staff scored FENOC: "The root cause report did not document or initiate a corrective active to determine why the shield building design did not include a requirement for a protective sealant

as was included in other safety related buildings.”

FENOC’s apparent response, also at Revised RCA p. 5, is this: “Information regarding why the shield building design did not include a requirement for an exterior protective sealant was added in section 3.3.5 -- Design [page 33], and Attachment 6 -- Shield Building Milestones [pages 86 & 88].”

But at Revised RCA p. 33, FENOC still doesn't really explain why. It merely states:

No exterior protective sealant other than the waterproofing membrane below-grade was specified as a barrier against moisture migrating into the shield building structure from the environment. A Bechtel project meeting held on September 5, 1969 to review and estimate protective coatings for DBNPS [Davis-Besse Nuclear Power Station] determined that there would be no painting required on the inside or outside concrete walls of the shield building. Neither the Field Service Contract for field painting (FSC-21), the specification for field painting (A-24), or the specification for the shield building (C-38) describe application of an exterior protective sealant on the shield building. An exterior protective sealant on the shield building was not identified in industry standards for protective coatings for reactor containment facilities or the nuclear industry such as ANSI N5.9-1967, ANSI 101.2-1972, or ANSI N101.4-1972. Therefore, the design codes at the time of construction did not require the application of a protective coating on the exterior of the shield building.

And at Revised RCA p. 86, FENOC reports that on November 11, 1970, “The Bechtel Power Corporation revised the site architectural elevation drawing (A-20 through A-23) to specify a waterproof finish applied to the reinforced concrete exterior surfaces of various buildings, excluding the shield building.”

Then, on page 88, FENOC reports that on August 15, 1976, “The Toledo Edison Company examined the shield building dome parapet area and found a small area of the latex coating at approximately 315 degrees mid-way up the dome that was peeling and chipping from being applied too heavily.” But at p. 29 of the Revised RCA, FENOC reports that the dome parapet coating was laid on 1/4 inch thick. FENOC further reported that the too-thick coating

was removed, and a thinner replacement applied.¹

So the dome parapet was sealed, but inexplicably, not the exterior wall of the shield building. To intervenors' knowledge, FENOC has never acknowledged that the shield building dome parapet had been weather sealed until the May 16 Revised RCA.

At Revised RCA p. 88, FENOC asserts that on September 07, 1976, "The Bechtel Power Corporation requested the field painting contractor to proceed with the application of a waterproof finish to the reinforced concrete exterior surfaces of various structures, excluding the shield building." So the exterior wall of the shield building - perhaps the most important structure on the entire Davis-Besse site - was never weather-sealed, when other safety-significant concrete buildings were ordered to be painted by Bechtel.

This doesn't square with the only public explanation given by FENOC. On February 28, 2012, Jennifer Young, a FENOC spokesperson, told the Toledo Blade newspaper that "she had no historical information about how the structure design decision was made but remarked that two other safety-sensitive concrete buildings at the plant complex were painted for aesthetic reasons. Unlike the shield building, which was built continuously, the other buildings' concrete was poured at different times and thus looked blotchy, she said."²

What emerges is the picture of a nuclear power plant corporation which has to be alternately coddled and pressured for facts and explanations. Intervenor, in their initial motion for Contention 5 to be admitted, traced the history of misleads and reluctance on FENOC's part to be

¹"One small area of latex coating at approximately 315 degrees mid-way up the shield building dome was found peeling and chipping from being applied too heavily (~1/4 inch). That coating was identified for removal with the area reapplied using a thinner layer of the same latex."

²<http://www.toledoblade.com/local/2012/02/28/Davis-Besse-cracks-blamed-on-blizzard.html>

candid with the public. It is specious for FENOC to try to justify this blunder using a “blotchy”, aesthetic, rationale.

So who’s to blame for the most safety-significant structure in this nuclear power plant complex not being moisture-sealed 40 years ago? Why, no one. And who’s expected to believe, in light of a wholly-incomplete, tokenistic investigation (detailed below) that there is no reason to be suspicious that the true extent of the cracking and deterioration of the shield building remains unknown? Why, everyone.

The conclusion that “the Blizzard of ‘78 did it” is viewed with skepticism because the engineering literature is disputed over how forceful the delivery of precipitation must be for it to penetrate concrete. In an article, “Quantification of Water Penetration Into Concrete Through Cracks by Neutron Radiography,” *The 3rd ACF International Conference-ACF/VCA 2008*, 925, M. Kanematsu, Ph.D., I. Maruyama, Ph.D., T. Noguchi, Ph.D., H. Iikura, Ph.D. and N. Tuchiya, research engineers, found that:

[W]ater penetrates through the crack immediately after pouring and its migration speed and distribution depends on the moisture condition in the concrete. With another detailed analysis, it is understood that the water has reached around 50mm depth in the horizontal crack, but 20-30mm depth in the vertical crack immediately after pouring water. From these result it is detected that water reaches to the 25-30mm depth in few minutes after it is exposed to water and in 30 minutes it reaches to the 80mm. ***This means water will be supplied to the rebar with few minutes’ scattered showers.***³

(Emphasis supplied). There is no consideration nor discussion which addresses the possibility that much less than the drama of the Blizzard might have produced the damage.

2. FENOC Proposes To Plan To Have A Plan

FENOC ventures (RCA at 7) that the Blizzard of ‘78 is the culprit for all of the shield

³http://www.degas.nuac.nagoya-u.ac.jp/ippei/paper_e/200811_ACF_Kanematsu.pdf

building cracking:

The conclusion of this investigation is that the cause of the concrete laminar cracking was the design specification for construction of the shield building that did not specify application of an exterior sealant from moisture. The action to prevent recurrence of the shield building concrete laminar cracking is to apply an exterior protective sealant as a barrier against moisture migrating into the concrete. Therefore, with an effective exterior protective sealant the shield building concrete laminar cracking will not repeat under the required combinations of extreme environmental conditions such as the shield building experienced during the severe blizzard of 1978.

RCA at 7. But this application of exterior sealant comes 40 years overdue. Even components which were sealed and/or protected with barriers, such as the shield building concrete located below grade, have failed and suffered water-borne degradation, some of it due to leaks of borated water inside the shield building. Also, initial coating atop the dome parapet roof failed, because it was done badly.

FENOC's February 2012 RCA further gives the lie to the RAI Aging Management Plan inasmuch as FENOC *pronounces its own investigation to be incomplete:*

The shield building dome lacks factors found in the architectural flute shoulders like the discontinuity stress concentration factor and high density reinforcing steel necessary for crack initiation and propagation. Therefore, only the remainder of the accessible, above-grade, exterior wall of the shield building *should be examined* similar to those areas previously examined.

[*Id.* at 54.]

The remainder of the accessible shield building exterior walls *should be examined using Impulse Response testing with confirmatory core bores to clearly define the extent of condition.*

Id. at 57 (emphasis supplied).

The RCA concludes that “the tighter spacing of the outer face of structural reinforcing steel such as in the top 20 feet of the shield building and adjacent to openings or blockouts can

facilitate propagation of laminar cracking as evident at the main steam line penetration block-outs.” RCA at 41. Rebar was installed too densely in areas opened for maintenance over the plant’s history and a spacing sensitivity study established that a higher density of rebar could propagate laminar cracking beyond the architectural flute region with a given stress condition. RCA 96. Rebar was also installed too densely at the main steam line penetration blackouts. This was done as an earthquake protection for the shield building structure, because the concrete was more vulnerable there due to the "discontinuities." But ironically, it facilitated crack propagation.

Notwithstanding these construction defects, FENOC insists, utterly, that the Blizzard of 1978 was the only possible cause of propulsion of moisture unusually deeply into the openings and crevices of the shield building from the southwest direction, and owing to that directionality, that the rusting and swelling of too-shallow or too-concentrated rebar and consequent concrete bursts that have caused cracking are laid at the blame of the weather. And FENOC also admits in the RCA that examination of the entire structure has not taken place - and for that, in the RAI AMP, FENOC plans only to have a plan:

FENOC is developing a comprehensive engineering plan to re-establish the design and licensing basis conformance of the Shield Building. The plan is scheduled to be completed and issued by December 1, 2012. ***The plan will include a detailed structural analysis of the Shield Building and consider applicable effects.***

RAI AMP at 11/29 of .pdf. (Emphasis supplied). Where one might expect immediate, priority current regulation activities to be complete, they are relegated to be dealt with in the future in the RAI AMP. And so the RAI AMP is deficient. A plan to have a plan is not a present, articulated plan for the management of the aging shield building. Not only is there no direction to conduct a thorough investigation of the entire shield building, the RAI AMP foresees scant planned testing to be done during infrequent inspections over the coming decades, as, for example, a mere

handful of core bores.

3. Even The Unduly-Narrow Root Cause Investigation Was Incomplete

The credibility of having a plan-to-have-a-plan is further undermined by the limited scope of the investigation of the cracking which has taken place to date. There was no examination of cracks during the 2011-2012 investigation if they were less than 1/16" in width. RCA at 26. Earlier cracks identified in the Maintenance Rule Structure Evaluations from June 1999 and November 2005 were less than 1/16 inch, hence those cracks were deemed acceptable. *Id.* at 26. The RAI AMP states that the widest crack was .013". RAI AMP at 2 (of 8). The widest shield building exterior surface concrete crack identified in the RCA, by contrast, was measured at 0.025 inches. RCA at 26. The management plan, promulgated to encourage vigilance and responsiveness about future cracks, does not accurately reflect the known extent of cracking in the shield building exterior.

Only 15 of the 16 flute shoulders were analyzed for damage. "Impulse Response testing and cores [sic] bores taken using man-lifts from the ground and scaffold from building roofs across 15 of the 16 architectural flute shoulders confirmed that a similar concrete crack phenomenon in the architectural flute shoulders exists in other regions around the perimeter of the shield building..." But "Shoulder 14 was not accessible from the ground due to interference with a start-up transformer." RCA at 18. The absurd theme that runs throughout FENOC's management decisions over the years is constantly that convenience outweighs safety concerns. That indifference to safety is evident in the cracking problems with the shield building, from a failure to inspect in a serious fashion until the swollen and bursting rebar made it impossible to ignore.

4. Other Damage To Shield Building Exterior Goes Unconsidered In RCA

Since May 1996, surface visual inspections of the shield building exterior have identified concrete spalling above the original construction opening. *Id.* In an August 2011 reply to NRC Requests for Additional Information (RAI), (ML11242A166), at 9/54 of .pdf, FENOC indicated that spalling was noted on the exterior shield building surface in 1999 and 2005 in three areas, with the pits in the concrete as much as 2" deep. These observations predate the 2012 root cause understanding that the entire Shield Building exterior had never been sealed against moisture intrusion. The FENOC assurance in August 2011 that "the method of repair is based on the actual size, depth and amount of rebar exposed in the area to be repaired,"⁴ given the potential for more exposure of and damage to exposed rebar near the exterior shield building surface than anticipated, appears not to have been clarified in subsequent documents, including the RCA. That exposed rebar could lead to more and worse cracking in the shield building, both surface and subsurface

In FENOC's May 16, 2012 revision (ML12142A053) of the February 2012 Root Cause Analysis appears this statement (at 29):

On August 15, 1976 the Toledo Edison Company construction superintendent documented an examination of the shield building dome parapet that found a cracked and broken architectural flute shoulder corner at approximately 292 degree azimuth. There were also other hairline shrinkage cracks in the dome parapet at both corners of each architectural flute shoulder, at mid-width of each flute, and vertical around the periphery of the parapet that should not affect the structural integrity of the shield building dome parapet. . . .

Without reference to this event,⁵ the February 2012 RCA consultant concluded (p. 56)

⁴Response to RAI, *id.* At 7 (of 16).

⁵The 1976 dome cracking is not mentioned in the February RCA.

that “[t]he shield building dome lacks factors found in the architectural flute shoulders like the discontinuity stress concentration factor and high density reinforcing steel necessary for crack initiation and propagation,” and that it is therefore unnecessary to examine it for cracking. Even without reinforcing steel, the dome has a history of cracking.

5. Exposure Of Shield Building Interior To Elements Goes Unconsidered In RCA

While focus of the RCA has been solely on exterior cracking, the status of the interior of the shield building may be problematic, also. Construction of the shield building commenced on April 26, 1971 with above-grade concrete pours. RAI AMP at 80. Thus for 2 years and 4 months, the shield building was exposed to the outer atmosphere, meaning the SB interior was in contact with unimpeded, repeated moisture (rains, snow, sleet, wind-driven precipitation of all forms), with no weather sealant on the inside wall of shield building. On Aug 22, 1973, the concrete pour for construction of SB dome bottom slab began. On August 6, 1975, concrete pours for closing the SB construction opening began; they were completed on December 1, 1975. RAI AMP at 81-82. The construction opening in the shield building was open for 4 years, 8 months, allowing even more exposure of the SB interior wall to the elements.

When in 2002-2003 the reactor head was replaced, there was necessarily an opening in the shield building wall for a period of five weeks, with additional consequent exposure of the shield building interior to the elements. RCA at 82. Another breach of containment that left the shield building open to the elements was the most recent vessel head swap out, which ran from October through December 2011. Thus there was another month or more of exposure of interior of the shield building to the elements. But the root cause investigation narrowly scrutinizes the shield building exterior weather factors affecting the exterior only from 1978 forward. FENOC

attempts to persuade the NRC and the public at large that one iconoclastic weather event, the Blizzard of 1978, so permeated the completed, protected and enclosed shield building with moisture that it set off decades of unarrested deterioration, yet both the inside and outside of the building were repeatedly subjected to inclement weather for over seven (7) years before the Blizzard.

Moreover, Davis-Besse has other water problems inside the shield building. In RAI responses dated May 24, 2011 (ML 11151A90), the NRC staff had noted a “history of ground water infiltration into the annular space between the concrete shield building and steel containment.” During a 2011 AMP audit, NRC staff also reviewed documentation that:

[I]ndicated the presence of standing water in the annulus sand pocket region. The standing water appears to be a recurring issue of ground water leakage and areas of corrosion were observed on the containment vessel. In addition, during the audit the staff reviewed photographs that indicate peeling of clear coat on the containment vessel annulus area, and degradation of the moisture barrier, concrete grout, and sealant in the annulus area that were installed in 2002-2003.

Id. at 47/280 of .pdf.

6. Lack of QA Control 40 Years Ago Should Spur, Not Deter, Complete Investigation

FENOC states in the February RCA that:

The failure modes for the laminar cracking of the shield building concrete wall were primarily design related from about 40 years ago under a quality assurance program outside the control of FENOC. Therefore, the condition does not currently exist in other applicable programs /processes, equipment / systems, organizations, environments, and individuals.

RCA at 54. Precisely because FENOC purportedly did not have QA assurance control over the shield building’s construction 40 years ago, it is incumbent upon Applicant to completely investigate and identify all cracking which might be present in the structure, and to authoritatively rule out connections between interior and exterior concrete surficial damage or defects,

both in the concrete above, and below, the surface. The RCA emphasizes that the shield building has undergone “long-term exposure to moisture” (p. 24) which has “migrat[ed] through concrete” (pp. 46,47, 56). What is missing is an analysis which considers and if warranted, refutes, any connection between the cracking, and spalling or the placement of too-dense rebar or the potential for moisture-caused damage to the interior of the shield building from moisture which even now may be wicking into interior concrete. The potential for concrete damage emanating outward from inside the shield building has not been addressed at all by FENOC.

C. Standards Regarding Admissibility of Supplemental Information

A new contention may be filed after the deadline found in the notice of hearing with leave of the presiding officer upon a showing that: (i) The information upon which the amended or new contention is based was not previously available; (ii) The information upon which the amended or new contention is based is materially different than information previously available; and (iii) The amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information. 10 C.F.R. § 2.309(f)(2).

Intervenors respectfully submit that their supplemental facts are timely submitted under the Commission’s standard in 10 C.F.R. § 2.309(f)(2)(i)-(iii). The supplemented/amended Contention 5 meets the NRC’s three-part standard for a timely contention. The information on which the contention is based was not previously available; the RCA was released on February 27, 2012, and the RAI AMP on April 5, 2012. The RCA was then extensively revised and re-released on May 16, 2012. Revision 1 RCA (ML 12142A053). The information on which the contention is based is materially different than information previously available, *see* 10 C.F.R. § 2.309(f)

(2)(ii), because it relates to findings and commitments that did not exist when Intervenors moved for admission of Contention 5 in January 2012. This amendment/supplementation of Contention 5 is timely because it is filed within sixty (60) days of the RAI AMP release on April 5, 2012, and 60 days is the period ordered by the ASLB in which Intervenors must act. *Shaw Areva MOX Services, Inc.* (Mixed Oxide Fuel Fabrication Facility), LBP-08-10, 57 NRC 460, 493 (2008). Intervenors have responded to triggering events in a manner which is timely according to 10 C.F.R. § 2.309(f)(2)(iii).

D. Conclusion

The history of crisis management at Davis-Besse - or certainly, the public perceptions of the same - is shameful. FirstEnergy is not transparent in its investigations and repeatedly has been found not to be forthright with the public. That lack of candor has even begun to trouble the NRC staff, as new reports, RAI responses, and analyses continue to emanate from FENOC over the cracking problems. There are many inconsistencies and variances between FENOC and the NRC staff, but just as disturbingly, between FENOC and its own consultants. Contention 5 should be admitted for trial.

WHEREFORE, Intervenors respectfully ask that the factual basis for their proposed Contention 5 be amended/supplemented with the information provided in support of this Motion; and that Contention 5 be admitted for hearing.

/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
tjlodge50@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-LR
<i>First Energy Nuclear Operating Company</i>)	
(Davis-Besse Nuclear Power Station, Unit 1))	June 4, 2012
.)	

* * * * *

**CERTIFICATE OF SERVICE OF ‘INTERVENORS’ MOTION TO
AMEND AND SUPPLEMENT PROPOSED CONTENTION NO. 5
(SHIELD BUILDING CRACKING)’**

We hereby certify that a copy of the “INTERVENORS’ MOTION TO AMEND AND SUPPLEMENT PROPOSED CONTENTION NO. 5 (SHIELD BUILDING CRACKING)’ was sent by us to the following persons via electronic deposit filing with the Commission’s EIE system on the 4th day of June, 2012:

Administrative Judge
William J. Froehlich, Chair
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
E-mail: wjfl@nrc.gov

Rulemakings and Adjudications Staff
Washington, DC 20555-0001
E-mail: hearingdocket@nrc.gov

Administrative Judge
Dr. William E. Kastenber
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
E-mail: wek1@nrc.gov

Office of the General Counsel
U.S. Nuclear Regulatory Commission
Mail Stop O-15D21
Washington, DC 20555-0001
Catherine Kanatas
catherine.kanatas@nrc.gov
Brian G. Harris
E-mail: Brian.Harris@nrc.gov
Lloyd B. Subin
lloyd.subin@nrc.gov

Administrative Judge
Nicholas G. Trikouros
Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
E-mail: ngt@nrc.gov

Office of Commission Appellate
Adjudication
U.S. Nuclear Regulatory Commission
Mail Stop: O-16C1
Washington, DC 20555-0001
E-mail: ocaamail@nrc.gov

Office of the Secretary
U.S. Nuclear Regulatory Commission

Michael Keegan

Don't Waste Michigan
811 Harrison Street
Monroe, MI 48161
E-mail: mkeeganj@comcast.net

Stephen J. Burdick
Morgan, Lewis & Bockius LLP
1111 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
Phone: 202-739-5059
Fax: 202-739-3001

E-mail: sburdick@morganlewis.com

Timothy Matthews, Esq.
Morgan, Lewis & Bockius LLP
1111 Pennsylvania Avenue, N.W.
Washington, DC 20004
Phone: (202) 739-5830
Fax: (202) 739-3001
E-mail: tmatthews@morganlewis.com

Respectfully submitted,

/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
tjlodge50@yahoo.com
Counsel for Intervenors

/s/ Kevin Kamps
Kevin Kamps
Radioactive Waste Watchdog
Beyond Nuclear
6930 Carroll Avenue, Suite 400
Takoma Park, MD 20912
Tel. 301.270.2209 ext. 1
Email: kevin@beyondnuclear.org
Website: www.beyondnuclear.org
Pro se on behalf of Intervenors