

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

<p>In the Matter of Tennessee Valley Authority Sequoyah Nuclear Plant Units 1 and 2 License Nos. DPR-77 and DPR-79</p>
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Docket Nos. 50-327 and 50-328

June 7, 2013

REPLY OF

THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE,
BELLEFONTE EFFICIENCY AND SUSTAINABILITY TEAM,
AND MOTHERS AGAINST TENNESSEE RIVER RADIATION
RE: PETITION FOR LEAVE TO INTERVENE AND REQUEST FOR HEARING

Pursuant to 10 CFR § 2.309(i)(2), the Blue Ridge Environmental Defense League, with its chapter Bellefonte Efficiency and Sustainability Team and its project Mothers Against Tennessee River Radiation (öBREDLö or öPetitionerö), hereby files this Reply in support of BREDL's petition for leave to intervene and request for hearing (öPetitionö). This reply addresses the questions of standing and admissibility raised by the answers of the applicant Tennessee Valley Authority and the NRC Staff to the Petition. This Reply references the Expert Witness Report of Arnold Gundersen in support of the Petition (öGundersen Reportö), the Tennessee Valley Authority's Answer Opposing the Petition for Leave to Intervene and Request for Hearing (öTVA Answerö), and the NRC Staff Answer to Petition for Leave to Intervene and Request for Hearing (öNRC Answerö).

Standing

There is no partition between Blue Ridge Environmental Defense League, its chapter Bellefonte Efficiency and Sustainability Team (öBESTö) and its project Mothers Against Tennessee River Radiation (öMATRRö). If BREDL is granted standing by the Atomic Safety and Licensing Board, BEST and MATRR will have standing *ipso facto*

because BREDL and its chapters are unitary, with a common incorporation, financial structure, board of directors and executive officer. Bellefonte Efficiency and Sustainability Team was established by BREDL in February 2008 to urge the Tennessee Valley Authority to adopt efficient, sustainable energy options. The Mothers Against Tennessee River Radiation is a project of BEST. BREDL itself is a true league of community groups called "chapters." Under the Petitioner's bylaws, BEST members serve on the BREDL Board of Directors.

The Petition opens with a statement of fact describing the petitioner: "[T]he Blue Ridge Environmental Defense League, its chapter Bellefonte Efficiency and Sustainability Team and its project Mothers Against Tennessee River Radiation (BREDL or Petitioner), hereby file this Petition..." In the Petition, BREDL submitted sixteen declarations and stated, "The Blue Ridge Environmental Defense League, Bellefonte Efficiency and Sustainability Team and Mothers Against Tennessee River Radiation have made this showing supporting their right to be made a party to the intervention in the license proceeding based on proximity, property and/or other interest, and the effect of the proceeding on the Petitioner's interest." Petition at 5 (emphasis added). These statements refute TVA's and NRC's assertions that the Petition and the declarations fail to include BEST and MATRR. Neither NRC nor TVA dispute BREDL's standing. TVA Answer at 3, f.n. 2. NRC Answer at 5. Other tribunals have recognized the relationship.¹ In sum, the facts of the matter indicate no objections to

¹ See *Blue Ridge Environmental Defense League, Inc., et al v. Commonwealth of Virginia, ex. rel.* The case was an appeal under the Administrative Process Act, Va. Code §2.2-4000 et seq., Rule 2A:4 of the Rules of the Supreme Court of Virginia, and Va. Code §62.1-44.29, of a decision of the Virginia State Water Control Board to re-issue a National Pollution Discharge Elimination System Permit to Virginia Electric and Power Company (d/b/a Dominion Virginia Power) for the Dominion-North Anna Power Station in Louisa County, Virginia, Case No. 07-6083 in the Circuit Court of the City of Richmond. Regarding BREDL and its chapter, the Court concluded: "The Appellees do not challenge the representational

standing for the Bellefonte Efficiency and Sustainability Team and Mothers Against Tennessee River Radiation should be sustained.

Matters subject to review

Pursuant to § 54.30, inadequate systems, structures and components which are being managed within the current licensing basis are by rule not within the scope of review for license renewal. However, by the same rule the management of such deficiencies must assured only within the current term of the license. The license term for Sequoyah Units 1 and 2 ends on September 17, 2020 and September 15, 2021. Therefore, deficiencies identified by the Petitioner which extend beyond those dates are within the scope of review for this license renewal.

§ 54.30 Matters not subject to a renewal review.

(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.

Briefly this reply will outline why Contentions A through F are within scope, raise genuine disputes and are admissible.

Contention A. Flood Risk From Failure of Upstream Dams

An Integrated Plant Assessment (IPA) must provide enough information about systems, structures, and components to demonstrate that the effects of aging will be managed consistent with the Current Licensing Basis (CLB) for the period of extended operation. 10 CFR § 54.21(a). As stated *supra*, Petitioner's contentions address factors

standing of these Appellants. Judge's Order of July 3, 2008. Thus the League and its Virginia chapter People's Alliance for Clean Energy were granted representational standing.

beyond the current license term of 2021. Sequoyah nuclear station's (SQN) several outstanding violations center on data showing the 2.4 foot increase in the probable maximum flood. TVA Answer at 15 and f.n. 5. In brief, given the short amount of time remaining within the current licensing term, the huge costs of remediation at SQN, and the problem multiplied by similar conditions at Watts Bar, can TVA correct this problem within eight years? Under 10 CFR § 54.21, the IPA must provide information to demonstrate that the plant function will be maintained consistent with the CLB for the period of extended operation. Review of the LRA section 2.4.2 on water control structures is unavailing.

B. Long-term Storage of Irradiated Nuclear Fuel

TVA states: "In its GEIS for license renewal, the Commission designated all issues relating to waste management, including on-site storage of spent fuel, as Category 1 issues that could be resolved generically for all plants and are not to be evaluated further in a license renewal proceeding." TVA Answer at 18. However, the rule cited, 10 CFR § 51.23 the "Waste Confidence Rule," is presently remanded to the Commission for action not expected to be complete before September 2014, after which date further judicial review of a new generic rule would occur. In the approach outlined by the NRC Staff to the Commission following the June 8, 2012 decision of the US Court of Appeals, entitled "Policy Issues and Technical Deficiencies," the Executive Director for Operations writes:

Waste Confidence, though applicable only to the period after the licensed life of a reactor, undergirds agency licensing decisions on new reactor licensing, reactor license renewal, and ISFSI licensing (see generally 10 C.F.R. § 51.23). The DC Circuit's decision vacates the 2010 Waste Confidence Decision and the Temporary Storage Rule. As explained in more detail below, the court concluded that the Waste Confidence Decision, which served as the

environmental assessment (EA) for the Temporary Storage Rule, violated NEPA in three ways, described below. Thus, with the NRC's Waste Confidence Decision and Temporary Storage Rule vacated, NRC will need to take further action in order to make licensing decisions that would have relied on Waste Confidence.

COMSECY-12-0016, page 2 (emphasis added). Clearly, unless TVA can show in its LRA how it plans to complete an environmental impact statement encompassing on-site and beyond 60-year high-level radioactive waste storage, the Commission must suspend a final decision on the LR until there is a new rule approved by the Commission and accepted by the Court. The NRC Staff maintains that this contention should be held in abeyance pending further Commission order. NRC Answer at 25.

C. Cancer Death Rates Elevated Around Sequoyah

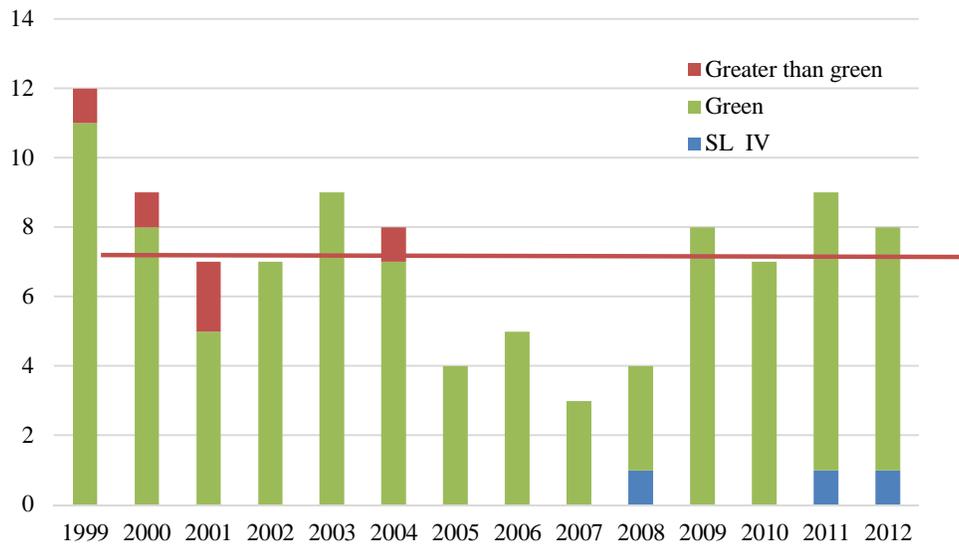
TVA's ER states that human health impacts from the license renewal would be "small." See ER Table 8.0-2. However, Petitioner has supplied an analysis of cancer statistics in counties within 50 miles around Sequoyah Nuclear Plant which point to a relationship between cancer rates and SQN which is not small. The statistical analysis is based on vital statistics compiled by the State of Tennessee. Rules governing petitions for intervention at 10 CFR § 2.309(f)(v) allow the submission of "alleged facts" in lieu of expert opinion to support a contention.

With all due respect, TVA and NRC may cite jurisprudence showing that biological and genetic harm from radionuclides and chemicals known to be emitted from nuclear power stations including Sequoyah are not subject to license renewal, but this does not alter the epidemiological evidence which points to additional morbidity and mortality during twenty additional years of operation. In the wake of Fukushima, the public is again alerted to the deleterious effects of radioactive operations. Materiality and genuine dispute are clearly within the scope of nuclear operations, at least in the court of public

opinion.

D. Integrated Plant Assessment Fails to Assess Increasing Safety Incidents

The quarterly incident reports average of 7.14 per annum and the anecdotal evidence supplied in this contention are drawn from publicly available data. The main point of this contention is that the incident rate is on the rise is perhaps more clearly presented with an illustration of the same data on a bar graph, provided below:



Here the trend may be observed as stated by the Petitioner: "In the beginning of this period, incidents trended towards fewer and less significant findings, but for the last six to eight years the trend has reversed and indicates increasing levels of safety-related incidents, both in frequency and severity." Petition at 17.

E. Failure to Consider Plutonium Fuel

Actions occurring during the proposed license renewal term of 2021 to 2041 are within the scope of and material to license renewal. The use of plutonium fuel at SQN is not Petitioner's presumption or speculation, as averred by TVA; the publicly available source of information is the U.S. Department of Energy environmental impact study: *Final Surplus Plutonium Disposition Supplemental Environmental Impact Statement*,

DOE/EIS-0283-S2, Federal Register Vol. 77, No. 145, July 27, 2012. Embrittlement of systems, structures and components is a relevant reactor safety issue in license renewal and is appropriately raised in the Petition based on this information.

F. Reactor Containment Contentions

The Commission cannot issue a renewed license at SQN unless and until TVA identifies actions for managing the effects of aging on the containment beyond the current license term.

F-1. Ice Condenser Containment Lacks Aging Management Program

As stated in the Petitioner's expert declaration, not only is the Aging Management Program for ice condenser containment structures, systems and components at Sequoyah inadequate, it has been known to be so since the publication of the Analyses Of Containment Structures With Corrosion Damage by Sandia National Laboratories in 1996. Gundersen Report at 7, f.n. 11.

At the crux of the problem is an area "inaccessible for inspection" around the ice baskets, where there is high potential for corrosion. The most severe risk occurs when corrosion is in the vertical, longitudinal direction on the cylinder-shaped containment structure, because the internal pressure creates larger forces in the "hoop" direction. As a result, "any amount of corrosion near the ice basket high strain region degraded the load-carrying capacity." Petition at 22 citing Sandia. Is this safety issue addressed in the SQN application? It is not. TVA has failed to include a specific aging management plan to compensate for this corrosion beyond the current license term. Nor do they have an adequate plan to manage it within the CLB. Gundersen concludes that with no AMP to manage aging phenomena known to have already occurred and postulated to occur in the

future, the license renewal application is incomplete. The integrated plant assessment must include the reactor containment among the structures subject to aging management review. 10 CFR § 54.21.

According to TVA, the LRA's Containment Inservice Inspection (IWE) Program is sufficient to comply with § 50.55a. TVA Answer at 37. However, TVA admits that IWE exempts inaccessible portions of the containment from examination if they meet certain requirements. *Id.* But the criteria for such evaluations are based solely on conditions in accessible areas. BREDL cites expert analysis which shows that the region of the containment which is inaccessible because of the ice baskets is the area of highest strains on an uncorroded containment, and the expected failure location.ö Petition at 22 citing Sandia (emphasis added). Therefore, this region of the Steel Containment Vessel suffers a triple whammy: it is susceptible to corrosion, does not get inspected, yet is subject to the greatest strain. TVA's reference to LRA section 3.5.2.2.1.3 provides nothing but conclusory assertions that corrosion in the inaccessible areas is insignificant and will be detected before it is too late. TVA Answer at 38 and NRC Answer at 46. Without addressing the AMP points in question, TVA's license renewal application is incomplete.

F-2 Ice Condenser Containment Severe Accident Mitigation Alternatives

TVA asserts that Contention F-2 has nothing to do with managing the effects of aging. TVA Answer at 48. This is incorrect. Severe Accident Mitigation Alternatives (SAMA) are features or actions which would prevent or mitigate the consequences of a severe accident. TVA's LRA states that even during a beyond-design-basis (severe accident),ö the Steel Containment Vessel would control the release of radioactive fission products. As stated *supra*, the inability to gain access to critical areas of the SCV

removes the basis for this claim. Under the National Environmental Policy Act, the NRC requires site-specific SAMAs for license renewals (*Limerick Ecology Action v. NRC*, 869 F.2d 719 [3d Cir. 1989]). TVA's reduction of the argument to a dispute over the meaning of "severe accident conditions," is unconvincing. TVA Answer at 50. The LRA fails to provide a proper age-related SAMA analysis and is fatally deficient.

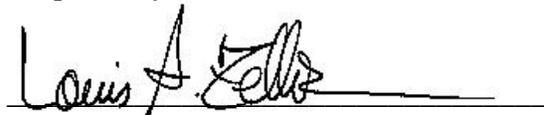
F-3 Mismanaged Whistleblower Complaint System Impact Safety

Harassment of employees has a pernicious impact on morale. Lynne Bernabei, an attorney for TVA whistleblowers said, "The whole regulatory system is based on self-reporting by the utility employees. If those employees are scared of coming forward, you're not going to get the safety problems reported, and you're gonna have a plant that is not safe." CBS News July 20, 2011. The risk relevant to license renewal is that the impact of demoralized employees who would otherwise bring forward safety concerns fail to do so, the result being physical systems negatively affected by so-called conceptual issues.

Conclusion

For the reasons stated in BREDL's Petition and Reply, the contentions should be admitted and a hearing granted.

Respectfully submitted,



Louis A. Zeller

June 7, 2013

Date

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CERTIFICATE OF SERVICE

I hereby certify that, pursuant to 10 C.F.R § 2.305, copies of the June 7, 2013 REPLY OF THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE, BELLEFONTE EFFICIENCY AND SUSTAINABILITY TEAM, AND MOTHERS AGAINST TENNESSEE RIVER RADIATION RE: PETITION FOR LEAVE TO INTERVENE AND REQUEST FOR HEARING were served on parties to the above captioned matter via the Nuclear Regulatory Commission's Electronic Information Exchange this day, the 7th of June, 2013.

Signed in Glendale Springs this day June 7, 2013

A handwritten signature in black ink that reads "Louis A. Zeller". The signature is written in a cursive style and is followed by a horizontal line.

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