UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of Duke Energy Carolinas Combined License Application For William States Lee III Units 1 and 2	)	Dockets No. 52-018, 52-019 ASLBP No. 08-865-03-COL-BD01 August 8, 2008

REPLY OF THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE TO ANSWERS OF DUKE ENERGY CAROLINAS AND NRC STAFF

In accordance with 10 C.F.R. § 2.309(h)(2), the Blue Ridge Environmental Defense League hereby files its Reply to Duke Energy Carolinas and the staff of the Nuclear Regulatory Commission in the matter captioned above.

Background

On June 27, 2008 the Blue Ridge Environmental Defense League ("BREDL") filed a petition to intervene and request for hearing ("Petition"). On July 22, 2008, Duke Energy Carolinas ("Duke") and the staff of the Nuclear Regulatory Commission ("NRC Staff") submitted their respective answers to the Petition. (Hereinafter "Answers") Rules of procedure at 10 C.F.R. § 2.309(h)(2) allow a petitioner to reply and on July 25th BREDL submitted a motion for additional time to reply. Subsequently, the ASLBP issued an order granting petitioner's request to file a reply on or before August 8, 2008.

A Hearing Should Be Granted

Petitioner has requested that a hearing be granted by the Atomic Safety and Licensing Board Panel in the Duke Energy Carolinas William States Lee III combined construction and operation license proceeding. We hereby reaffirm that request. The rule changes for commercial nuclear power plants implemented over the last two decades and the even longer hiatus since the last new nuclear power license makes the ongoing COL proceedings particularly important. Public scrutiny has been heightened in part by public relations campaigns waged by the nuclear industry and its supporters which have pushed for pre-certified reactor designs, early site permits, regulatory schedules and generic safety issues. However, during this process the public has lost important procedural rights including fair access to hearings. At this time the Commission has received nine combined construction and operating license requests. In view of the record, Petitioner is convinced that the Commission favors its own case management and procedural convenience over public access. As a result, we believe public confidence is being sacrificed on the altar of expediency.

The Commission has stated that it "should not have to expend resources to support the hearing process unless there is an issue that is appropriate for and susceptible to, resolution in an NRC hearing." 69 Fed. Reg. at 2202. The Commission has emphasized that the rules on contention admissibility are "strict by design." 54 NRC 349 (2001) CLI-01-24. These decisions may suit license applicants' needs but they do not serve the interests of petitioners. In 2000 a letter to Commission Chairman Meserve signed by grassroots, consumer, energy and environmental organizations from 33 states

and the District of Columbia expressed opposition to the NRC's shift from formal to informal hearings for nuclear reactor and high-level waste repository licensing. The letter included agency history outlined by a former Commission member:[1]

> The current NRC adjudicatory hearing process was developed as part of a bargain from which the nuclear industry gained a great deal in the late 1950s. In return for accepting extensive federal hearings, the industry was exempted from any state and local regulation of radiological health and safety and received the limitations on liability that are set forth in the Price-Anderson Act. Thus, citizens in any community in which a nuclear facility was to be located gave up both local regulation of the facility and the additional financial and safety assurances that normal insurance industry operations would have brought . . . . In return they got a commitment to the full panoply of trial-type procedures as part of the federal licensing process. Now that memories have faded, the industry is seeking to revoke its share of the concessions in that original bargain.

In 2004 the NRC Office of General Counsel advised the NRC that it could freely alter long-standing practices regarding hearings and administrative procedures:[2]

> As part of the analysis of possible approaches, OGC reached the conclusion that, except for a very limited set of hearings—those associated with the licensing of uranium enrichment facilities—the AEA did not mandate the use of a ''formal, on-the record'' hearing within the meaning of the APA, 5 U.S.C. 554, 556, and 557, and that the Commission enjoyed substantial latitude in devising suitable hearing processes that would accommodate the rights of participants. In contrast to informal hearings for which agencies have greater flexibility in shaping adjudicatory procedures, ''on-the-record'' hearings under the APA generally resemble adversarial trial-type proceedings with oral presentations by witnesses and cross-examination. The key, statutory provision, Section 189.a. of the AEA, declares only that ''a hearing'' (or an opportunity for a hearing) is required for certain types of agency actions. It does not state that such hearings are to be on-the-record proceedings. Furthermore, the legislative history for the AEA provides no clear guidance whether Congress intended agency hearings to be formal, on-the-record hearings.

The OGC continued:[3]

> In a significant change from the existing regulations, the requirement to proffer specific, adequately-supported contentions in order to be admitted as a party is extended to informal proceedings under Subpart L. Under the existing Subpart L, petitioners need

[1] Letter to NRC Chairman Richard A. Meserve from James Riccio, Public Citizen's Critical Mass Energy Project, quoting former Nuclear Regulatory Commissioner Peter Bradford, March 7, 2000
[2] 69 Federal Register 2183, January 14, 2004, Rules and Regulations
[3] *Id* at 2202

> only describe ‘‘areas of concern about the licensing activity that is the subject matter of the proceeding’’ (10 CFR 2.1205(e)(3)).

By altering the rules in this manner, the Nuclear Regulatory Commission has moved in the wrong direction. Commenting on the need for hearings requirements in Atomic Energy Act Section 189a in 1954, the chairman of the Joint Committee on Atomic Energy stated:[4]

> [B]ecause I feel so strongly that nuclear energy is probably the most important thing we are dealing with in our industrial life today, I wish to be sure that the Commission has to do its business out of doors, so to speak, where everyone can see it.
>
> Although I have no doubt about the ability or integrity of the members of the Commission, I simply wish to be sure that they have to move where everyone can see every step they take; and if they are to grant a license in this very important field, where monopoly could so easily be possible, I think a hearing should be required and a formal record should be made regarding all aspects, including the public aspects.

If indeed the Commission has “latitude” to alter its hearing processes, Petitioner respectfully submits that the way to do it now is to open the doors wide; view our arguments with common sense and forbearance. Petitioner respectfully requests that the ASLBP heed the advice of its Congressional founders and admit all the Petitioner’s proffered contentions.

On the following pages we reply to the answers of license applicant Duke Energy Carolinas and the NRC Staff.

[4] Senator Clinton P. Anderson (D-NM), Chairman of the Joint Committee on Atomic Energy, 84th and 86th Congresses, 100 Cong. Rec. 10,000 (July 14, 1954)

Contention One: The NRC cannot hold a fair hearing at this time because the application adopts by reference a design and operational practices that have not been certified by the NRC or accepted by the applicant

Duke's Answer employs *petitio principii* to avoid the contention's principal argument; i.e., the AP-1000 design is not certified; it is years away from final approval. Duke asserts that Contention 1, "*simply makes no sense given that Duke references and relies on the AP1000 DCD and pending Amendment to the DCD*." Duke elects not to address the matter further. Duke Answer at 13, Footnote 68. BREDL grants that Duke references the AP1000. The crux of the matter is that Duke's reliance on the DCD provides insufficient basis for the requested NRC license; Duke was not required to reference a design which has not been granted. This is the basis for the contention.

Regarding the same issue, NRC Staff avers that an applicant may reference a design "*docketed but not yet granted*" and that this practice is "*specifically allowed by 10 CFR § 52.55(c)*." NRC Staff Answer at 13. However, the regulation contains a proviso that the applicant may only do so "*at its own risk*."[5] In other words, the applicant rolled the dice when it based its COLA on the yet uncertified Revision 16 of the AP1000 DCD.

Contention Two: The applicant fails to analyze the "carbon – footprint" of the construction and operation of the William States Lee nuclear reactors 1 & 2 in its environment report.

[5] 10 CFR § 52.55(c) An applicant for a construction permit or a combined license may, at its own risk, reference in its application a design for which a design certification application has been docketed but not granted.

Duke does admit that its Environmental Report should include a discussion of gaseous emissions, as required by the Environmental Standard Review Plan NUREG-1555. Duke Answer at 22. However, Duke includes only air emissions from diesel generators, pumps and storage tanks in its ER.

Contention 2 has a basis in law. In *Massachusetts v. Environmental Protection Agency*, the Supreme Court held that carbon dioxide is an air pollutant and is subject to regulation under the federal Clean Air Act of 1970.[6] 549 U.S. 497 (2007) The Court's majority held that "greenhouse gases fit well within the [Clean Air] Act's capacious definition of air pollutant." *Id.* The NRC Environmental Standard Review Plan's [NUREG-1555 page 5.8.1-3] acceptance criteria list *inter alia* the Clean Air Act of 1970, as amended and as related to air quality during plant operations, and National Primary and Secondary Air Quality Standards found at 40 CFR § 50 through 90. However, as stated above, Duke included carbon dioxide emissions from only a handful of intermittent sources.

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[6] In Massachusetts v. EPA 549 U.S. 497 (2007); 127 S. Ct. 1438, the majority opinion held, "The harms associated with climate change are serious and well recognized. The Government's own objective assessment of the relevant science and a strong consensus among qualified experts indicate that global warming threatens, *inter alia*, a precipitate rise in sea levels, severe and irreversible changes to natural ecosystems, a significant reduction in winter snowpack with direct and important economic consequences, and increases in the spread of disease and the ferocity of weather events. That these changes are widely shared does not minimize Massachusetts' interest in the outcome of this litigation. See *Federal Election Comm'n* v. *Akins*, 524 U. S. 11 . According to petitioners' uncontested affidavits, global sea levels rose between 10 and 20 centimeters over the 20th century as a result of global warming and have already begun to swallow Massachusetts' coastal land. Remediation costs alone, moreover, could reach hundreds of millions of dollars. Pp. 17–19."

The Court held further, "Because greenhouse gases fit well within the Act's capacious definition of 'air pollutant,' EPA has statutory authority to regulate emission of such gases from new motor vehicles. That definition—which includes '*any* air pollution agent … , including *any* physical, chemical, … substance … emitted into … the ambient air … ,' §7602(g) (emphasis added)—embraces all airborne compounds of whatever stripe. Moreover, carbon dioxide and other greenhouse gases are undoubtedly 'physical [and] chemical … substance[s].' *Ibid.*"

BREDL's Contention Two states the ER is deficient because it does not analyze greenhouse gas emissions associated with the uranium fuel chain. The principal greenhouse gas is carbon dioxide. Duke counters that "The ER does in fact address this issue" because ER Section 5.7 references Table S-3 uranium fuel cycle environmental data found in 10 CFR § 51.51. Duke Answer at 23. However, Duke is incorrect because Table S-3's list of gaseous emissions does not include carbon dioxide. Duke implicitly acknowledges its responsibilities to account for the uranium fuel cycle's atmospheric emissions by its detailed calculation of criteria pollutants and hazardous air pollutants. Nevertheless, Duke's ER is deficient because it does not include the uranium fuel cycle's carbon dioxide gas emissions, a recognized pollutant under the Clean Air Act. The Commission's "statutory responsibility to assure that all licenses meet applicable safety and environmental regulations" [CLI-01-4, 53 NRC 31, 56 (2001)] requires Duke to analyze greenhouse gas emissions from the uranium fuel cycle including carbon dioxide in the instant case.

BREDL's contention supplies expert opinion and therefore meets the requirements of 10 CFR § 2.309 (f)(v) which stipulates that a petition to intervene must provide a concise statement of the alleged facts which support the petitioner's position. There is no requirement, as Duke asserts, to "explain how such an analysis might be conducted." Duke Answer at 26. Nonetheless, the expert opinion cited in Contention Two can easily be found at http://www.stormsmith.nl; specifically, the technical work by Jan Willem Storm van Leeuwen: "Nuclear power – the energy balance." Part C of the document includes the following chapters: Energy analysis – the method, Methodology,

Energy balance of the nuclear system, Performance parameters, Energy debt and CO2 debt, Other greenhouse gases and References. The NRC Staff Answer raises a similar concern to Duke's, concluding that boards need not "flyspeck" environmental documents or add details. If by "flyspeck" the NRC Staff means "scrutinize," Petitioner believes that in an adjudicatory process it is the responsibility of all parties to examine everything directly related to the matter at hand. Further, expert opinion submitted by petitioners ought to be perused by the NRC Staff.

Continuing with the exposition of technical analysis, we would draw the Board's attention to the calculation of carbon dioxide emissions of a nuclear powered electric generating station, i.e. the carbon footprint, found in the work of van Leeuwen and cited in BREDL's Petition at 13:[7]

> Here we define the CO2 intensity γ as the ratio of the total CO2 emissions and the gross electricity output during the lifetime of the nuclear power plant.
>
> $$CO_2 \text{ intensity} = \gamma = \frac{\text{mass carbon dioxide}}{\text{gross energy output}} = \frac{m\,(CO_2)}{E_{grid}}$$
>
> $$= \frac{(E_{c+d}(th) + E_{fuel}(th)) \bullet 75}{n \bullet 25.86} \quad g/MJ \qquad \text{Eq. C.29}$$
>
> As with the energy content of uranium, the CO2 intensity γ can be calculated ignoring the energy debt E_{c+d}:
>
> $$\gamma\,(\text{fuel chain}) = \frac{E_{fuel}(th) \bullet 75}{n \bullet 25.86} \quad g(CO_2)/MJ$$
>
> $$= \frac{E_{fuel}(th) \bullet 75}{n \bullet 25.86} \bullet 3.6 \quad g(CO_2)/kWh \qquad \text{Eq. C.30}$$
>
> The value of the CO2 intensity γ can be converted from g/MJ to g/kWh by use of the conversion factor: 1 kWh = 3.6 MJ. The carbon intensity can be found by application of the stoichiometric conversion factor:
>
> **1 gram CO2 corresponds with 12/44 gram C** Eq. C.31

[7] Jan Willem Storm van Leeuwen, *Nuclear power – the energy balance*, Ceedata Consultancy, October 2007, available at http://www.stormsmith.nl/

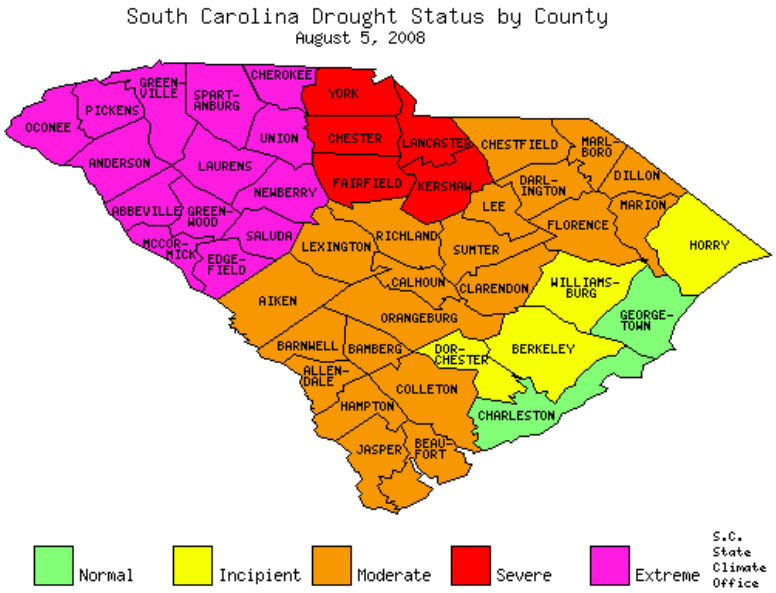
No extraordinary flyspecking is needed to calculate the carbon dioxide intensity for the expected lifetime power output of Duke's WLS nuclear reactors.

Contention Three: Duke's COLA does not identify the plans for meeting its water requirements with sufficient detail in order to determine if there will be adequate water during adverse weather conditions such as droughts.

This contention lists ten potential negative impacts caused by elevated water temperatures in the Broad River, which would be expected to provide cooling water for the WS Lee reactors. The contention points to numerous, specific deficiencies in the applicant's Environmental Report. Duke's response is that regional surface water temperatures and drought are beyond the scope of the proceeding. Duke Answer at 28. Similarly, NRC Staff states the contention's water temperature and drought arguments are unsupported. NRC staff Answer at 22. Unanswered are the facts that Duke's WS Lee would consume 4.2 times as much water as all public and industrial users in Cherokee County combined.[8] Annual consumptive use would be 12.9 billion gallons; 11.6 million gallons of heated wastewater per day would be discharged back into the river.

On August 5, 2008 the State Climate Office of South Carolina expanded its "extreme drought status" to fourteen counties, including Cherokee County which has been on the list since June. The counties flanking the Broad River from Fairfield to the North Carolina line are in either severe or extreme drought status.

[8] Duke Combined License Application Environmental Report Section 2.3.2



Today, the Commission announced that the Tennessee Valley Authority has shut down one reactor and reduced the other two units to half power at the Browns Ferry Nuclear Plant in Alabama. The reason for the shut down was "to ensure continued thermal compliance with water quality standards."[9] This was not the first such occurrence at Browns Ferry.

The National Environmental Policy Act[10] requires all federal agencies including the Nuclear Regulatory Commission to *inter alia* fulfill our responsibilities to future generations, prevent degradation of the environment and enhance the quality of renewable resources. Further, NEPA directs that, to the fullest extent possible, all agencies of the federal government utilize an interdisciplinary approach, consider

[9] NRC Current Event Notification Report for August 8, 2008
[10] NUREG 0980, National Environmental Policy Act of 1969, as amended, Public Law 91-190 83 Stat. 852

unquantified environmental values as well as quantifiable technical and economic factors, and support initiatives which recognize the worldwide and long-range character of environmental problems.

Contention Four: The applicant has not demonstrated that it is and financially qualified to engage in the activities authorized by the operating license in accordance with the regulations of 10 CFR § 50.57 (a)(4)

Duke claims that an electric utility applicant for a license to operate a utilization facility of the type described in § 50.21(b) or § 50.22 should be exempt from providing financial qualifications. Duke Answer at 57. Duke indicates that an electric utility COL applicant need only demonstrate financial qualifications with respect to construction and related fuel cycle costs. However, the Commission indicated in the Statement of Considerations for 10 C.F.R. § 50.33(f):

> (1) If the application is for a construction permit…The applicant shall submit estimates of the total construction costs of the facility and related fuel cycle costs, and shall indicate the source(s) of funds to cover these costs.
> (2) If the application is for an operating license …The applicant shall submit estimates for total annual operating costs for each of the first five years of operation of the facility. The applicant shall also indicate the source(s) of funds to cover these costs.

Since Duke is applying for both a construction license and an operating license, Duke should provide financial assurances for both construction and operation costs in order to satisfy § 50.21(b) or § 50.22. In addition, the Commission may request an established entity or newly-formed entity to submit additional or more detailed information respecting its financial arrangements and status of funds if the Commission considers this

information appropriate. Duke Energy is the holding company of Duke Energy Carolinas LLC. The latter's information is included in the 10K files.

Since the financial performance is crucial to power plant construction in this, it is totally permissible for BREDL to bring a contention regarding Duke's financial status.

Duke asserts that its profitability and taxpayer costs are immaterial to the proceeding. Duke Answer at 58. Duke declares that it and its holding company possess, or have reasonable assurance of obtaining, the funds necessary to cover construction and related fuel cycle costs in the Section 1.2 of Part 1 of the WLS COL Application:

> "Collectively, this information supports a conclusion that Duke Energy Carolinas, LLC, and its holding company, Duke Energy Corporation possess, or have reasonable assurance of obtaining, the funds necessary to cover the construction and related fuel cycle costs of Lee Nuclear Station Units 1 and 2"

In fact, after looking into the financial reports downloaded from http://www.duke-energy.com/investors/publications/annual/ar-2006/index.html**,** we can see some obvious flaws that contrast with the demonstration above. In the Financial Highlights Part, there exists tremendous decreasing trend from 2004 to 2006 in crucial items like operation revenue, earnings from continuing operations, operating income. Although the net income remains constant from 2005 to 2006, we can easily conclude that it is due to decreasing income tax and minority interest expense, which probably will not keep going after 2008, the election year. In one word, the financial reports Duke provided is not assertive enough to demonstrate that it will remain financial healthy in the first few years after construction.

Duke also claims that in the Statement of Considerations for the current financial qualification rule, the Commission further explained:

> "(Financial qualification review) Its concern is that reasonable and prudent costs of safely maintaining and operating nuclear plants will be allowed to be recovered through rates. This concern does not extend to any level of profit or rate of return beyond those operating expenses."

It is true that the Commission's concern is with safe operation, not profits, and they are also the common concern of BREDL. The reason we look into the financial performance is that, it is one of the most reliable measures of one company's financial health. So our point is the financial health behind the profit ability, not "profit" itself must be demonstrated.

Further, we sstated that "Duke's anticipation of future financial benefits may be a little too optimistic" and that there may be profits, "although not predictably". We do this from a scientific view because we are not auditors. The words "too optimistic" should better be treated as a warning, but not a hint that adventurous profits are worthy of chasing.

In conclusion, we claim again that the financial condition of Duke Energy is not suitable for a new construction and operation permit.

Contention Five: The COLA does not provide reasonable assurance of adequate protection of public health and safety required by 10 CFR. § 50.57 (a)(3). The FSAR insufficiently analyzes reactor units' capability to withstand a design-basis and safe shutdown earthquake because they fail to include more recent information regarding the

type, frequency and severity of potential earthquakes in violation of 10 CFR PART 100, APPENDIX A.

Duke mischaracterizes Contention Five by asserting that Petitioner "culls selective figures," "infers…that there are 'active' faults at the WLS site" and "soft peddles" [sic] the conclusion. Duke Answer at 61, 62. Duke implies uncertainty where none exists; there is no inference required or made. On the issue of active faults at the WS Lee site, Duke states unequivocally, "no active faults exist in the general location of the site." *See* COLA ER 2.6.2 as cited in BREDL Petition at 27. The factual information from the US Geological Survey presented in the Petition delineates a clear dispute: "Faults are commonly considered to be active if they have moved one or more times in the last 10,000 years." *Id*. Contention Five presents an overview of earthquake events in South Carolina within the last two centuries. Duke states that the information presented by BREDL's Petition relates to three areas: seismicity, capable tectonic sources and seismic design margins. Duke Answer at 66. Here Duke is correct. Duke then proceeds to cite FSAR Section 2.5 to indicate information allegedly not accounted for in the Petition. Duke Answer at 67. Duke states, "FSAR Sections 2.5.2.2.2.4 and 2.5.2.4.3.1 discuss the use of the most current characterization of the Charleston seismic source." *Id*. The FSAR section cited by Duke predicts that future Charleston-type earthquakes would occur only within a relatively restricted area.[11] *See* FSAR Chapter 2, Revision 0,

[11] FSAR Section 2.5.2.2.2.4.1 states: "The preponderance of evidence strongly supports the conclusion that the seismic source for the 1886 Charleston earthquake is located in a relatively restricted area defined by Geometry A. Geometry A envelops (1) the meizoseismal area of the 1886 earthquake, (2) the area containing the majority of local tectonic features (although many have large uncertainties associated with their existence and activity, as described earlier), (3) the area of ongoing concentrated seismicity, and (4) the area of greatest density of 1886 liquefaction and prehistoric liquefaction. These observations show that

Updated Charleston Seismic Source Geometry, Section 2.5.2.2.2.4.1, page 2.5-102. However, FSAR section 2.5.2 is insufficient because it does not adequately describe how Duke combined random vibration theory with NUREG/CR-6728 Approach 3 to predict ground motion and how these factors were applied to the WS Lee site. Also, the WS Lee site is near the Eastern Tennessee Seismic Zone. Recent studies indicate that the area may produce large magnitude earthquakes. However, Duke has not updated its 20-year old source models for this area. This is significant because, as stated by NRC staff, "EPRI/SOG seismic source models for the region may not adequately characterize the potential for larger earthquakes."[12] Further, Duke's COLA does not address important factors contributing to seismic hazard—such as probability of activity, source location and recurrence—in its probabilistic seismic hazard analysis for the WS Lee site.[13] We believe these issues and others are yet unresolved; they are cited in an April 2nd letter from the Commission to Duke which states:[14]

> In the letter dated February 25, 2008, the staff discussed four areas that introduced uncertainty into the review schedule. These areas are: 1) incomplete recirculation screen design in the referenced design; 2) response methods used to produce the final site ground motion; 3) the seismic source characterization of the region; and 4) potential amplification and characterization of the dynamic response of fill material under the radwaste building, and its impact on the interface of the auxiliary and radwaste buildings during seismic activity. (emphases added)

The Duke Answer correctly points out that the proper citation under 10 CFR Part 100 is at § 100.23 and not at Appendix A as stated in Contention Five. BREDL Petition

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future earthquakes having magnitudes comparable to the Charleston earthquake of 1886 most likely will occur within the area defined by Geometry A."

[12] Schedule Issues for the William States Lee III Combined License Review, (Revised 02/07/2008)
[13] FSAR Section 2.5.2.2.2.5
[14] William States Lee III Nuclear Station Units 1 and 2 Combined License Application Review Schedule (April 2, 2008) Accession No: ML080920621

at 22. For this error we apologize. Contrary to NRC Staff Answer at 42, this is not a fatal flaw. At the conclusion of the contention the Petition correctly cites 10 CFR § 100.20 which is under Subpart B--Evaluation Factors for Stationary Power Reactor Site Applications on or After January 10, 1997. BREDL Petition at 28.

In conclusion, Contention Five presents a genuine dispute and provides factual information in support of our position: that the WS Lee site is unsafe for nuclear power. An operating license may be issued by the Commission only upon a finding that there is reasonable assurance that the activities authorized by the operating license can be conducted without endangering the health and safety of the public. 10 CFR § 50.57(a)(3)

Contention Six: Whether William States Lee III will improve the general welfare, increase the standard of living, or strengthen free competition in private enterprise

The Answers to the Petition attempt to refute the premise of this contention in an offhand manner. Duke states: "[T]he referenced section of the AEA merely provides the general policy for use of nuclear power in the United States." Duke Answer at 71. NRC Staff asks: "[W]hy this general statutory policy statement is a basis for a justiciable claim" NRC Answer at 50. Petitioner hereby replies to the question.

The Atomic Energy Act states:[15]

> [T]he development, use, and control of atomic energy shall be directed so as to promote world peace, improve the general welfare, increase the standard of living, and strengthen free competition in private enterprise. (emphasis added)

[15] 42 U.S.C. § 2011

The intent of Congress as spelled out in the AEA requires the Nuclear Regulatory Commission to deny a license if it will not serve the inclusive purpose of the Act. The prospects for nuclear power plant must be considered from an economic point of view in order to determine if and how the WS Lee plant serves the purpose of the Act and meets the conditions of the law. NB: The contention does not ask the Commission to do a cost-benefit analysis or otherwise weigh safety and environmental concerns alongside economic interests. However, BREDL believes that the advent of new and arguably better methods of generating electricity forces a comparison regarding the use of nuclear power. In 2007 alone the US wind industry installed 5,244 megawatts of new electric power capacity from wind turbines,[16] equivalent to four AP1000 nuclear reactors. .

Contention Six begins with a critique of commercial nuclear power. The subsequent supporting arguments regarding safety issues, human failures and federal subsidies center on the consequences of cost-cutting, overwork and investment uncertainties brought about by economic factors. The bottom line is that nuclear power plants are not economically viable.

Contention Seven: The NRC fails to execute constitutional due process and equal protection

The contention states that the NRC has applied inequitable standards of protection by treating different people differently and that NRC regulations will not prevent elevated levels of exposure in different population groups. NRC sidesteps the argument by

[16] US Department of Energy, *20% Wind Energy by 2030-Increasing Wind Energy's Contribution to US Electricity Supply*, May 2008, DOE/GO-102088-2567

electing to treat this contention as an impermissible attack on federal statutes and jurisprudence. NRC Answer at 54. Duke counters Contention Seven saying, "NRC has previously rejected claims that its radiation exposure limits do not protect all members of the public adequately." Duke Answer at 77. In their Answer, Duke cites a recent denial of a rulemaking petition on NRC radiation standards.[17] The Federal Register notice on the rulemaking request states, "Although some epidemiological studies have shown that children, individuals in poor health and the elderly are more radiosensitive to radiation at high doses and high dose rates…" adverse health effects have not been observed. On the subject of cancer clusters near nuclear power plants, the notice states, "Statistical association alone does not demonstrate causation." BEIR VII found that a lifetime dose of one million person-rem results in a cancer incidence rate of 900 for men and 1370 for women; mortality rates for the same dose are 480 and 660 for men and women, respectively. Equal protection under the law must mean that equal standards for protecting public health.

Contention Eight: The assumption that uranium fuel is a reliable source of energy is not supported in the combined operating license application submitted by Duke Energy to the U.S. Nuclear Regulatory Commission

Regarding this contention, Duke states, "BREDL, of all petitioners, should know better. In the Catawba-McGuire license renewal proceeding, the Commission dismissed a BREDL contention concerning the possible use of MOX fuel at the McGuire and

[17] Sally Shaw: Denial of Petition for Rulemaking, 72 Fed. Reg. 71083 (December 14, 2007)

Catawba facilities." Duke Answer at 85 citing 55 NRC 278 (2002). Duke continues, "In doing so, the Commission held that an NRC licensing proceeding is not 'an occasion for far-reaching speculation about unimplemented and uncertain plans' of applicants or licensees." *Id*. As the Commission knows, Duke Energy did subsequently apply for and receive a license amendment to test MOX fuel at the Catawba nuclear power station.

Contention Nine: Duke and NRC fail to include adequate protections from aircraft impacts at the WS Lee site

The Ninth Circuit found the NRC's position to be unreasonable in every respect in the *Mothers for Peace* decision. The Commission announced it will disregard the Ninth Circuit's decision in any other location but the Ninth Circuit.[18] Petitioners respectfully submit that the Commission's policy is unreasonable. For all the same reasons given by the Ninth Circuit in *Mothers for Peace,* Petitioners ask the Commission to admit this contention.

Contention Ten A: Failure to evaluate whether and in what time frame spent fuel generated by WS Lee Units 1 and 2 can be safely disposed of

Contention Ten B: Even if the waste confidence decision applies to this proceeding, it should be reconsidered.

Duke's Environmental Report is deficient because it fails to discuss the environmental implications of the lack of options for permanent disposal of the irradiated

[18] License Renewal Proceeding for Oyster Creek Nuclear Generating Station, Amergen Energy Company, L.L.C CLI-07-08 (February 26, 2006)

(*i.e,* "spent") fuel that will be generated by the proposed reactors if built and operated. Nor has the NRC made an assessment on which Duke can rely regarding the degree of assurance now available that radioactive waste generated by the proposed reactors "*can be safely disposed of [and] when such disposal or off-site storage will be available*."[19] Accordingly, the ER fails to provide a sufficient discussion of the environmental impacts of the proposed new nuclear reactors. The Blue Ridge Environmental Defense League plans to participate in the pending Nuclear Regulatory Commission rulemaking on waste confidence.

Conclusion

The Petitioner hopes that the substance of our contentions and our reply to Duke's and NRC Staff's answers will be given a full opportunity for hearing by the ASLBP. As *pro se* litigants, we have worked hard to bring important issues before the Commission.

Respectfully,

_____ August 8, 2008

Louis A. Zeller Date

[19] Final Waste Confidence Decision, 49 Fed. Reg. 34,658 (August 31, 1984), citing *State of Minnesota v. NRC,* 602 F.2d 412 (D.C. Cir. 1979)

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CERTIFICATE OF SERVICE

I hereby certify that copies of the August 8, 2008
REPLY OF THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE TO ANSWERS OF DUKE ENERGY CAROLINAS AND NRC STAFF
was served on the following persons via Electronic Information Exchange this 8th day of August, 2008.

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