

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD**

In the Matter of:	)	
	)	
EXELON GENERATION COMPANY, LLC	)	Docket No. 50-352-LR
	)	Docket No. 50-353-LR
(Limerick Generating Station, Units 1 and 2)	)	
(License Renewal Application)	)	
		July 9, 2012

**NRDC’S WASTE CONFIDENCE CONTENTION**

**PRELIMINARY STATEMENT**

The Natural Resources Defense Council, Inc. (“NRDC”) respectfully submits a new contention based on the United States Court of Appeals for the District of Columbia Circuit’s recent decision in the matter of *New York. et al.v. NRC*, No. 11-1045 (consolidated with D.C. Cir. Nos. 11-1051, 11-1056, 11-1057) (June 8, 2012) (hereinafter the “Waste Confidence Decision”), which invalidated NRC’s Waste Confidence Decision Update, Temporary Storage Rule and the major portions of 10 C.F.R. § 51.23(a) upon which Exelon relied in issuing the Environmental Report (“ER”) in support of its license application.

This contention challenges the sufficiency of the application under NRC regulations, as specified therein, as well as its compliance with the National Environmental Policy Act (“NEPA”), 42 U.S.C. §§ 4321-4370f. At the outset, NRDC acknowledges that, as a private entity, Exelon is not directly bound by NEPA. However, pursuant to 10 C.F.R. § 2.309(f)(2), NRDC has styled its contention as against the ER. *See id.* (“On issues arising under the National

Environmental Policy Act, the petitioner shall file contentions based on the applicant's environmental report.""). Because an applicant's ER generally serves as the basis for the Commission's eventual Draft SEIS, NRDC raises this NEPA contention at this time in order to preserve any objections they may have if the flaws that exist in the ER appear or remain in the Draft SEIS. In addition, if the Draft SEIS deviates from Exelon's ER in a manner to which Petitioners object, they plan to submit amended or new contentions addressing these deviations pursuant to 10 C.F.R. § 2.309(f)(2).

## SUPPLEMENTAL CONTENTION 1

**THE ENVIRONMENTAL REPORT FOR LIMERICK RELICENSING FAILS TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT AND ALL RELEVANT IMPLEMENTING REGULATIONS INCLUDING BUT NOT LIMITED TO 10 C.F.R. §§ 51.20(b)(2), 51.45, 51.53(c)(1) and (2), 51.71(d), 51.90, 51.91(c), 51.95(c)(1), 51.95(c)(2), AND 51.101(a) BECAUSE IT FAILS TO INCLUDE OR INCORPORATE A LEGALLY SUFFICIENT ANALYSIS OF THE ENVIRONMENTAL IMPACTS OF ON-SITE STORAGE OF NUCLEAR WASTE AFTER THE CONCLUSION OF THE EXTENDED OPERATING PERIOD, INCLUDING THE IMPACTS IN THE EVENT THAT NO PERMANENT REPOSITORY IS EVER ESTABLISHED, AND FAILS TO CONSIDER ALTERNATIVES TO MITIGATE THOSE IMPACTS; BECAUSE THERE IS NO VALID ANALYSIS OF THESE ISSUES, NRC MAY NOT REACH A FINAL DECISION ON WHETHER TO RENEW LIMERICK'S OPERATING LICENSES UNTIL SUCH A VALID ANALYSIS HAS BEEN COMPLETED IN COMPLIANCE WITH APPLICABLE FEDERAL LAW AND REGULATIONS.**

Exelon's ER, the existing NRC generic environmental review of spent nuclear fuel storage and disposal upon which the ER relies, and the specific application to operate two power reactors at Limerick for an additional twenty years, do not now include an analysis of the environmental impacts and risks arising from the storage of nuclear waste at Limerick beyond the end of the requested operating license. These documents likewise fail to include an analysis of the environmental effects of failing to establish a repository. *See, New York et al. v. NRC*, slip op. at 12 (attached and hereinafter referred to as "Waste Confidence Decision"). It also fails to consider alternatives to mitigate these adverse environmental impacts. The absence of searching environmental review of these issues violates the National Environmental Policy Act ("NEPA") and related regulations. Because neither the Environmental Report ("ER"), nor the Generic Environmental Impact Statement for License Renewal ("GEIS"), NUREG-1437, nor the NRC in any other context have examined these impacts, and because the United States Court of Appeals

for the District of Columbia Circuit recently vacated the findings and regulations that NRC relied on to bar consideration of such impacts in license renewal, such analysis is now required in this proceeding.

## **BASIS**

1. NEPA requires NRC to consider all the impacts of relicensing a nuclear reactor, including the environmental impacts and risks to public health and safety from storing nuclear waste at a reactor site for as long as waste remains at the site, the comparative merits of various technical alternatives for implementing such storage, and the ultimate disposal of such waste.

2. Until June 8, 2012, 10 C.F.R. § 51.23(a) provided that NRC had confidence that a mined geologic disposal site for spent fuel would be available when necessary and that no adverse environmental impacts would be associated with the continued storage of spent fuel at power reactor sites for 60 years after cessation of operation. *See* 10 C.F.R. § 51.23(a); 75 Fed. Reg. 81037 (Dec. 23, 2010). Based on that confidence, memorialized in five “Waste Confidence Findings,” the NRC promulgated 10 C.F.R. § 51.23(b), which stated that

as provided in §§ 51.30(b), 51.53, 51.61, 51.80(b), 51.95 and 51.97(a), and within the scope of the generic determination in paragraph (a) of this section, no discussion of any environmental impact of spent fuel storage in reactor facility storage pools or independent spent fuel storage installations (ISFSI) for the period following the term of the reactor operating license . . . is required in any environmental report, environmental impact statement, environmental assessment or other analysis prepared in connection with the issuance or amendment of an operating license for a nuclear reactor.

10 C.F.R. § 51.23(b). The predecessor of the current version of § 51.23(a) and the limitations on the scope of environmental impact statements in § 51.23(b) are reflected in the 1996 Generic Environmental Impact Statement (NUREG-1437) and 10 C.F.R. Part 51, Appendix B, Table B-1.

3. On October 9, 2008, NRC proposed a draft revision of the Waste Confidence Decision Finding (2) to read: “[t]he Commission finds reasonable assurance that sufficient mined geologic repository capacity can reasonably be expected to be available within 50-60 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of any reactor to dispose of the commercial high-level nuclear waste and spent fuel originating in such reactor and generated up to that time.” 73 Fed. Reg. 59551. The Commission proposed to amend Finding (4) to read: “[t]he Commission finds reasonable assurance that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 60 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin, or at either onsite or offsite independent spent fuel storage installations.” 73 Fed. Reg. 59551. Findings 1, 3, and 5 of the Waste Confidence Decisions remain unchanged. At the same time, the Commission also stated that it “retains confidence that spent fuel can be safely stored with no significant environmental impact until a repository can reasonably be expected to be available and that the Commission has a target date for the availability of the repository in that circumstance.” *See* 73 Fed. Reg. 59558.

4. The Commission proposed amending 10 C.F.R. § 51.23 to reflect these revised policies, stating in an open-ended fashion and without a date certain (*i.e.*, without even the 60-year reference from its proposed Finding Four revision) that “spent fuel generated in any reactor can be stored safely and without significant environmental impacts beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations until a

disposal facility can reasonably be expected to be available.” 73 Fed. Reg. 59547 (Oct. 9, 2008) (“Temporary Storage Rule”).

5. The NRC’s pronouncements in the October 9, 2008 Federal Register meant that the NRC expects that spent fuel will remain at power reactor sites or Independent Spent Fuel Storage Installations (“ISFSIs”) for decades longer than anticipated, if not indefinitely, despite the agency’s expressed certitude that a final repository would be identified and available when necessary.

6. Previously, Atomic Safety and Licensing Boards have rejected contentions based on the storage and disposal of spent fuel at power reactor sites. *See Entergy Nuclear Operations, Inc.*, Docket Nos. 50-247-LR and 50-286-LR, ASLBP No. 07-858-03-LR-BD01 (Indian Point Units 2 and 3), Memorandum and Order (Dec. 18, 2008); *Entergy Nuclear Vermont Yankee, LLC*, and *Entergy Nuclear Operations, Inc.*, Docket No. 50-271-LR; ASLBP No. 06-849-03-LR; LBP-06-20 (Vermont Yankee Nuclear Power Station), Memorandum and Order (Sept. 22, 2006); *Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc.*, Docket No. 50-293-LR; ASLBP No. 06-848-02-LR; LBP-06-23 (Pilgrim Nuclear Power Station), Memorandum and Order (Oct. 16, 2006).

7. Industry and NRC Staff opposed such proposed contentions on grounds that, *inter alia*, 10 C.F.R. § 51.23 barred consideration of the environmental impacts of the on-site storage of nuclear waste and Table S-3 accounts for the environmental effects of the nuclear fuel cycle and finds no significant impact. *See, e.g.*, NUREG 1437 (“The radiological impacts of the uranium fuel cycle on human populations over time (collective effects) have been considered within the framework of Table S-3.”), and *Entergy Nuclear Operations, Inc.*, (Indian Point Units

2 and 3), Order (Ruling on New York State's New and Amended Contentions), slip op. at 14-15 (June 16, 2009).

8. On June 16, 2009, in response to a contention related to spent fuel storage brought by the State of New York in the Indian Point relicensing proceeding, the Board rejected the State's proposed Contention NYS-34 on grounds that the State's contention was premature, and, alternatively, that the contention would be barred by 10 C.F.R. § 51.23. *Id.* at 13-16. The Board stated:

Both of the publications that New York cites as new and significant information are proposed revisions. At this point, the Commission has not made a final determination vis-à-vis the waste confidence rule. Therefore, it is premature to use these publications as the bases for a new contention, as the regulations now in force, specifically 10 C.F.R. § 51.23(b), do not permit "discussion of any environmental impact of spent fuel storage" at nuclear reactor sites.

Slip op at 16.

9. In September 2009, the Commissioners made additional public statements about the waste confidence process. The three then-sitting Commissioners recognized that the administrative record does not provide "reasonable assurance" that a permanent disposal facility for high level radioactive waste will exist by a particular date. This recognition was reflected in the voting notations of the three Commissioners who deferred any final action on a proposed revision to § 51.23 pending further input from the public on the proposal and further development of a waste disposal policy by the Executive and Legislative authorities. *See* Notation Vote, Response Sheets of Chairman Jaczko, Commissioner Klein, and Commissioner Svinicki (publicly released on September 25 and 28, 2009).

10. On July 8, 2010, in response to a certified question from the ASLB regarding waste confidence and temporary storage contentions filed in the Indian Point relicensing proceeding, the Commissioners issued a decision CLI-10-19 that directed the ASLB to reject any such contentions. *Entergy Nuclear Operations, Inc.*, (Indian Point Units 2 and 3), 72 N.R.C. 98, CLI-10-19, Memorandum and Order, (July 8, 2010).<sup>1</sup> The Commissioners stated:

We are continuing our deliberations on the waste confidence update, and in any event will not conclude action on the Indian Point license renewal application until the rulemaking is resolved.

CLI-10-19 slip op at 3.

11. NRC issued the final Waste Confidence Decision Update and Temporary Storage Rule on December 23, 2010. 75 Fed. Reg. 80132-37 (Dec. 23, 2010); 75 Fed. Reg. 80137-76 (Dec. 23, 2010).

12. In February 2011 a coalition of environmental groups led by NRDC and a coalition of states led by New York challenged the Waste Confidence Decision Update and the Temporary Storage Rule respectively, in the D.C. Circuit. Those legal challenges were consolidated and heard together.

13. On June 8, 2012, the D.C. Circuit vacated the Waste Confidence Decision Update and the Temporary Storage Rule. The Court held that the

rulemaking at issue here constitutes a major federal action necessitating either an environmental impact statement or a finding of no significant environmental impact. We further hold that the Commission's evaluation of the risks of spent nuclear fuel is deficient in two ways: First, in concluding that permanent storage will be available "when necessary," the Commission did not calculate the environmental effects of failing to secure permanent storage—a possibility that cannot be ignored. Second, in determining that spent fuel can safely be stored on

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<sup>1</sup> NRC Commissioner Apostolakis did not participate in the ruling on this matter.



site at nuclear plants for sixty years after the expiration of a plant's license, the Commission failed to properly examine future dangers and key consequences.

Slip op. at 3.

14. The Court also held that “we grant the petitions for review, vacate the WCD Update and TSR, and remand for further proceedings consistent with this opinion.” Slip op. at 21.

15. When the Commission adopted the WCD Update and TSR on December 23, 2010, it declared that:

The Commission reaffirms the three remaining findings. Each finding and the reasons for revising or reaffirming the finding are discussed below. In keeping with revised Findings 2 and 4, the Commission is concurrently publishing in this issue of the Federal Register conforming amendments to 10 CFR 51.23(a), which provides a generic determination of the environmental impacts of storage of spent fuel at, or away from, reactor sites after the expiration of reactor operating licenses, and expresses reasonable assurance that sufficient geologic disposal capacity will be available when necessary.

75 Fed. Reg. 81037, 81038 (Dec. 23, 2010).

16. As the United States Court of Appeals for the District of Columbia Circuit has vacated the WCD Update and the TSR, there is currently no bar in place to the legally required NEPA analysis of the potential environmental impacts of the on-site storage of spent nuclear fuel following the end of an extended operating license and no bar in place to examining the environmental effects of a repository and the failure to establish one. Because the D.C. Circuit decision finds that such impacts are significant, and which, in and of themselves, constitute major federal actions, and because Exelon's ER contains no such analysis, the ER is legally deficient.

17. Along with the now-vacated Waste Confidence Decision and the Temporary Storage rule, Exelon relied on NRC rules to excuse consideration of long-term spent fuel storage and disposal impacts. *See* 10 C.F.R. §51.53(c)(2) (“[t]he environmental report need not discuss any aspect of the storage of spent fuel for the facility within the scope of the generic determination in §51.23(a) and in accordance §51.23(b).”); *see also, cf.* 10 C.F.R. §51.45 for ER requirements tracking NRC’s NEPA obligations. Exelon has also relied on the GEIS for exclusion of “Category 1” issues, which include analysis of the environmental impacts of spent fuel storage and disposal. *See, “Category 1 and NA license renewal issues,”* (“[f]or the 54 Category 1 issues that are applicable to Limerick, Exelon Generation has reviewed the NRC findings at Table B-1 in Appendix B to 10 CFR Part 51 and has not identified any new and significant information that would make the NRC findings, with respect to those Category 1 issues, inapplicable to LGS. Therefore, Exelon Generation adopts by reference the NRC findings for the 54 applicable Category 1 issues.”). ER Section 4.0, p. 4-2. However, this statement can only relate to the environmental impact of spent fuel storage at the Limerick site during the period of license renewal, and not the period after plant operations cease. As the GEIS states in several instances,

The Commission's waste confidence finding at 10 CFR 51.23 leaves only the on-site storage of spent fuel during the term of plant operation as a high-level waste storage and disposal issue at the time of license renewal.

*See* GEIS at xvlii-xvliii, 6-85, and 6-91. Exelon, which does not discuss the environmental impacts of spent fuel at Limerick beyond the end of plant operations, relies on the GEIS and 10 C.F.R. § 51.23 to exclude any analysis of spent fuel impacts after license cessation from consideration. However, 10 C.F.R. § 51.23 and the portions of the GEIS that rely on that

regulation have now been invalidated by the D.C. Circuit's vacatur of both the WCD and TSR, and all reasonable alternatives for avoiding, reducing, and mitigating spent fuel storage and disposal environmental impacts and risks during and beyond the extended license term must now be evaluated.

18. All of the above-listed references to 10 C.F.R. § 51.23 or the Waste Confidence Findings have now been invalidated along with the D.C. Circuit's vacatur of both the Waste Confidence Findings and the Temporary Storage Rule, and as a result NRC Staff must now evaluate and examine, before a decision on Exelon's license can be made: the environmental effects of all reasonable alternatives for on-site and off-site storage of waste during and after the period of extended operation; offsite land, water, and air use impacts of continued operations and the storage of additional spent fuel on real estate values in the surrounding areas; whether the current GEIS adequately evaluates the long term impacts and safety of the generation and long-term storage of radioactive waste; the comparative impacts of spent fuel storage in pools versus in dry casks; the implications of on-site storage of waste for decommissioning; the effects of spent fuel disposal and the effects of spent fuel storage and disposal in the event of extended delay or if no final disposal option or repository is ever identified; and alternatives to mitigate these impacts, among other issues. Many of these issues appear to be site specific and cannot be dealt with generically.

19. As the D.C. Circuit noted in its opinion, NRC is currently considering the long-term environmental impacts of spent fuel for the period beyond 60 years after plant shutdown and "some or all of the problems [identified in the opinion] may be addressed in such a rulemaking." Slip op. at 21. The Commission may also decide to reopen the initial WCD

Update and TSR rulemaking. The scope of the issues to be considered in the rulemaking and the extent to which NRC will examine site specific issues are not known at this time. In addition, the Staff is currently drafting the Supplemental Draft EIS and we expect that may be delayed pending the Commission's resolution of the matters addressed by the D.C. Circuit.

20. While NRDC has strong and well established views on these issues, it would be premature to attempt at this time to predict how the Commission and NRC Staff will resolve those matters, particularly when all stakeholders have yet to be given the opportunity to fully and openly express their views on how these matters should be resolved. Thus, NRDC awaits resolution of the Commission's rulemaking on the WCD Update, TSR and long-term and indefinite spent fuel storage impacts, its commencement of the NEPA process directed by the Court, and Staff's subsequent issuance of a revised Draft Supplemental EIS for Limerick, to formulate any further contentions on the merits of the resolution of these matters.

21. This contention alleges that a final decision on whether to issue a renewed license for Limerick cannot be made until the NRC has completed a legally sufficient analysis of the environmental impacts associated with the disposal of spent fuel, the environmental effects of never identifying a final solution, the environmental impacts of the long-term and indefinite storage of spent fuel at the Limerick site and the alternative of shipping this spent fuel off-site to some form of consolidated interim storage , including a determination of which of those impacts must be addressed on a site-specific, and not a generic, basis.

22. NRC Staff has acknowledged in a legal filing submitted to the Commission in another proceeding, that although "[t]he Commission has not yet indicated how it intends to respond to the D.C. Circuit's ruling, no final decision to grant a ... renewed operating license

should be made ... until the NRC has appropriately dispositioned the issues remanded by the court ...” See *In the Matter of Calvert Cliffs et al.*, NRC Staff’s Answer to Petition to Suspend Final Decisions in All Pending Reactor Licensing Proceedings Pending Completion of Remanded Waste Confidence Proceedings (June 25, 2012).

### **SUPPORTING EVIDENCE**

23. This contention is supported by the U.S. Court of Appeals decision in the matter of *State of New York et al. v. NRC*, No. 11-1045 (June 8, 2012), issued June 8, 2012 and by the citations contained in the above-identified bases.

### **CONCLUSION**

The issues raised in the proposed contention are material to the findings the NRC must make to take action upon the applicant’s request. For all the reasons stated in this contention and the accompanying Motion for Leave, NRDC requests that this contention be admitted.

Respectfully submitted,

***Signed (electronically) by***

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