

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	Docket Nos. 50-247-LR
)	and
)	50-286-LR
ENTERGY NUCLEAR OPERATIONS, INC.)	
)	
(Indian Point Nuclear Generating Units 2 and 3))	
)	October 1, 2014

**HUDSON RIVER SLOOP CLEARWATER, INC.'S BRIEF REGARDING
CONTENTION SC-4**

BACKGROUND

Hudson River Sloop Clearwater, Inc. (hereinafter “Petitioner”) hereby submits this Brief to support contention SC-4, which seeks to plug the gaps in the safety analyses for the long-term storage of spent-fuel at the Indian Point Energy Center (“IPEC”).

The history of U.S. nuclear waste management and the NRC’s Waste Confidence Decision (“WCD”) have been described at length in this proceeding, not only in previous filings from Petitioner and Riverkeeper, but also in decisions by this Board.¹ In response to Petitioner’s first proposed safety and environmental contentions regarding waste storage on-site, 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.

Entergy Nuclear Operations, Inc., (Indian Point Units 2 and 3), 72 N.R.C. 98, CLI-10-19, Memorandum and Order, (July 8, 2010).² On June 8, 2012 in *State of New York v. Nuclear Reg. Comm.*, No. 11-1045, the U.S. Court of Appeals for the District of Columbia Circuit vacated the former Waste Confidence Decision.³ The Court told the United States Nuclear Regulatory Commission (“NRC”) that it must assess whether spent fuel can be safely stored at reactors indefinitely. The Court also said that spent fuel poses a “dangerous, long-term health . . . risk,” but the agency failed to examine the “future

¹ See Hudson River Sloop Clearwater’s Motion for Leave to Add New Contentions Based Upon New Information dated Oct. 26, 2009 and Hudson River Sloop Clearwater, Inc. and Riverkeeper, Inc.’s Joint Motion for Leave to Add New Contentions Based Upon New Information and Petition to Add New Contentions dated Jan. 24, 2011. See also Licensing Board Memorandum and Order dated Feb. 12, 2010.

² NRC Commissioner Apostolakis did not participate in the ruling on this matter.

³ Waste Confidence Decision, 49 Fed. Reg. 34,658 (Aug. 31, 1984) (“1984 WCD”); Waste Confidence Decision Review, 55 Fed. Reg. 38,474 (Sept. 18, 1990) (“1990 Revised WCD”); Waste Confidence Decision Update, 75 Fed. Reg. 81,037 (Dec. 23, 2010) (“2010 WCD Update”).

dangers and key consequences” of long-term storage of spent fuel in spent fuel pools.

Spent-fuel is a highly radioactive form of waste. Before it may be transported to another facility for reprocessing or disposal, it must remain at the nuclear reactor site for a period of time to allow the radioactivity in the waste to decay sufficiently. The designers of commercial nuclear reactor sites, such as IPEC, assumed that such waste would remain on-site for only approximately five years and be reprocessed thereafter. However, the reprocessing plant at West Valley in New York proved incapable of processing any appreciable quantity of this waste, and reprocessing in the United States ceased altogether in the 1970s due to both practical concerns about cost, and policy concerns about proliferation. After that, the government planned to dispose of spent-fuel and other wastes in deep underground repositories. After mandating the building of two repositories, Congress settled on Yucca Mountain in Nevada as the location for a single repository. Following repeated delays, the current administration has now canceled the program to build that repository making it unlikely that a repository will ever open at that location.

In the absence of a central disposal facility, waste has accumulated at reactor sites like IPEC, turning those sites into long-term nuclear waste storage facilities in addition to nuclear waste producers. The NRC used the WCD to generically address the safety concerns and environmental impacts of on-site waste storage. With the WCD Update, the Commission extended the time period for which waste could be safely stored on reactor sites. Recognizing that the decision of the Court of Appeals held that there had been an incomplete analysis of safety and environmental concerns relating to long-term storage, the NRC suspended licensing of all reactors and proceeded to make a new rule

regarding long-term disposition of spent fuel. That rule was recently finalized.⁴ As a result, the NRC removed the suspension of licensing and dismissed most of the pending contentions regarding waste storage. CLI-14-08 (August 26, 2014).

However, the Commission also directed the Indian Point Board to determine whether Contention CW-SC-4 raises issues that had not been resolved by a new WCD, now referred to by NRC staff as the “Continued Storage Rule.” *Id.* This brief addresses that issue. The Continued Storage Rule makes it clear that waste generated during any period of extended operation will continue to accumulate at IPEC, and no definite off-site disposal alternatives have been identified. Indeed, even if the administration were to revive the Yucca Mountain repository, it would not have the capacity to hold all the spent-fuel generated to date, let alone additional spent-fuel generated during any extended period of operation.

To comply with the requirements the Atomic Energy Act (“AEA”), the NRC or the applicant must show that there is reasonable assurance that long-term on-site storage is safe prior to any decision to grant renewed licenses. Contention SC-4 alleges that generic work currently available combined with the Safety Evaluation Report (“SER”) related to IPEC lacks sufficient safety analysis to provide a reasonable assurance of safety for long-term fuel storage at IPEC.

I. Nuclear Waste Management Has Been Fraught With Difficulty and Delay

A. History of U.S. Nuclear Waste Management

⁴ Final Rule, Continued Storage of Spent Nuclear Fuel, 79 Fed. Reg. 56,238, 56,243-44 (Sept. 19, 2014) (“Continued Storage Rule”). *See also* NUREG-2157, Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel Rule at D-9 (Sept. 2014) (“Continued Storage GEIS”).

Significantly, since the 1950s – and still today – the disposal of our country’s nuclear waste is replete with false starts, delays, and substantial problems that have left us at a loss for how to safely dispose of the waste generated by the use of nuclear power.

Gordon Thompson, *Environmental Impacts of Storing SNF & HLW from Commercial Nuclear Reactors: A Critique of NRC’s Waste Confidence Decision & Environmental Impact Determination* (February 2009) (“*Environmental Impacts*”); See generally Jason Hardin, *Tipping the Scales: Why Congress and the President Should Create a Federal Interim Storage Facility for High-Level Waste*, 19 J. Land Resources & Env’t. L. 293 (“*Tipping the Scales*”). The Continued Storage Rule recognizes that there is currently no long-term off-site storage of nuclear waste and that facilities such as IPEC will continue to accumulate highly radioactive spent fuel on-site for periods of time far greater than had been conceived when IPEC was designed.

In fact, raising the licensed amount of waste assemblies allowable onsite has become the norm at many reactors. See *The spent-fuel crisis: Region’s nuclear plants pack pools with waste Special report: The canary in the nuclear plant*. Stamford Advocate. Apr. 5, 2011.⁵ At Millstone Nuclear Power Station in Waterford, CT., the Unit 3 reactor pool was originally licensed to hold 756 assemblies, but now holds 1,040 assemblies, or 449 metric tons of waste, and is licensed to handle up to 1,860 assemblies. Additionally, while Millstone’s Unit 2 reactor was originally licensed to hold 677 spent fuel assemblies, it now holds 909 assemblies, or 304 metric tons, and is licensed to handle up to 1,346 assemblies. *Id.* The Pilgrim Nuclear Power Generating Station in Plymouth, MA was also originally licensed to store 880 fuel assemblies in its spent fuel

⁵ Available at <http://www.stamfordadvocate.com/local/article/The-spent-fuel-crisis-Region-s-nuclear-plants-1309964.php#ixzz2093bL0PW>.

pool, but now has almost reached 3,000 such assemblies. Of course, IPEC is no exception to this trend. IP3 was originally licensed to handle 264 assemblies, but this number was raised to 840 assemblies. *Id.* Clearly, the pools as designed and licensed were not intended to hold such large numbers of assemblies, and such an inherent risk requires a thorough safety analysis. As Petitioner sets forth below, no safety analysis of the risks associated with long-term storage of this inordinate amount of nuclear waste at IPEC in spent fuels has been performed, much less a thorough one.

II. Storage On Site In Wet Pools and Dry Casks Is The Default Solution

Compounding and extending the problem is that fact that spent fuel will be stored on-site for at least the renewal period of the license, and most likely indefinitely thereafter. At first the spent fuel was stored in low-density pools, however because this waste has accumulated, pools are now tightly and densely packed with spent fuel. *Environmental Impacts* at 11. Many reactor spent fuel pools, including those at IPEC, have reached capacity and now some of the spent fuel waste from 45 reactors, including IPEC Units 2 and 3, is stored in dry casks on-site in addition to in high density spent fuel pools. *Id.* at 11-12; IPEC Newsletter.⁶ There is currently no other option because a permanent waste disposal solution is as distant as ever and there are no civilian facilities

⁶ Available at <http://www.safesecurevital.org/pdf/IPNewsletter071609.pdf>, last visited October 1, 2014..It is worth noting that according to the U.S. Department of Energy's Office of Disposal Operations, by the end of 2010 the total U.S. stockpile of spent fuel was 64,500 tons, but only about 15,350 tons, or a little less than 25 percent, was stored in dry casks. While dry cask storage is a viable method to reduce the high density storage of spent nuclear fuel rods aggregating within the on-site storage pools, this procedure has not been practiced to an extent that has effectively relieved the dangers posed therein. *See* Feiveson, Harold et al *Managing nuclear spent fuel: Policy lessons from a 10-country study*. Bulletin of the Atomic Scientist, June 27, 2011; available at <http://www.thebulletin.org/web-edition/features/managing-nuclear-spent-fuel-policy-lessons-10-country-study>, last visited October 1, 2014.

to reprocess spent fuel in the United States. The reality is that it is highly likely that the additional waste generated during any period of extended operation would remain on the site for the foreseeable future. Indeed, the U.S. Court of Appeals in reviewing this issue concluded that “[a]t this time, there is not even a prospective site for a repository, let alone progress toward the actual construction of one.”

ARGUMENT

This argument demonstrates that Petitioners meet the substantive contention admissibility requirements of 10 C.F.R. § 2.309(f)(i)-(vi), in addition to the requirement for presenting new and significant environmental and safety information, and all other applicable requirements.

I. Specific Statement of the Contentions

Petitioner must “provide a specific statement of the issue of law or fact to be raised or controverted.” 10 C.F.R. § 2.309(f)(1)(i). The Waste Confidence Rule has been vacated, and as explained below, the Continued Storage Rule does remedy a critical fact: the NRC and/or applicant safety analysis and aging management plan provide an inadequate analysis of the effects of long-term on-site storage in spent fuel pools. Staff and Entergy must assess the effects of long-term fuel storage and cannot ignore the very real impacts from such storage. Petitioner contends that additional site-specific safety analysis is required before a licensing decision can be reached.

The new contention is:

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The license renewal application requesting the relicensing of Indian Point Units 2 and 3 is inadequate because it provides insufficient analysis of the aging management of the spent fuel pools that could be used to store waste on the site in the long-term. In addition, both the applicant and the NRC Staff

have failed to establish that any combination of such storage will provide adequate protection of safety over the long term.

II. Explanation of Basis

At this preliminary stage, Petitioner does not have to submit admissible evidence to support a contention, rather it has to “[p]rovide a brief explanation of the basis for the contention,” 10 C.F.R. § 2.309(f)(1)(ii), and “a concise statement of the alleged facts or expert opinions which support the . . . petitioner’s position.” 10 C.F.R. § 2.309(f)(1)(v). This rule ensures that “full adjudicatory hearings are triggered only by those able to proffer . . . minimal factual and legal foundation in support of their contentions.” *In the Matter of Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 N.R.C. 328, 334 (1999) (emphasis added).

Here, in addition to the factual basis for the contention discussed above, the contention is supported by the Expert Witness Declaration of Arnold Gundersen Regarding Aging Management of Nuclear Fuel Racks dated February 25, 2011 (submitted previously and annexed hereto) (“Gundersen Decl.”), the Prefiled Testimony Direct Testimony of Arnold Gundersen Regarding Consolidated Contention RK-EC-3/CW-EC-1 (Spent Fuel Pool Leaks) dated December 22, 2011 (Gundersen Test.), and an NRC Staff report discussing spent fuel pool aging: *A Summary of Aging Effects and Their Management in Reactor Spent Fuel Pools, Refueling Cavities, Tori, and Safety-Related Concrete Structures*, Office of Nuclear Reactor Regulation NUREG/CR-7111 ORNL/TM-2011/410 (“SFP Aging Report”).

Many specific aspects of the contention are within the standard scope of relicensing safety contentions, which is the aging management of long-lived passive

components, such as the spent fuel pool, the fuel pool liner, and the fuel assemblies. However, the agency must go beyond this narrow scope before it can issue any license for the extended operation of IPEC. The D.C. Circuit Court Decision found that the finding of safety regarding on-site fuel storage was inadequate:

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 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.*

DC Circuit Decision, Slip op. at 3 (emphasis added). This decision also emphasized that at present the agency cannot predict when the spent fuel will go off-site, because “the Commission has no long-term plan other than hoping for a geologic repository.” *Id.* at 13. The NRC therefore it must take account of the possibility of indefinite on-site storage. *Id.*

In a legal filing submitted to the Commission in another proceeding, NRC Staff has acknowledged 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 ...” NRC Staff’s Answer to Petition to Suspend Final Decisions in All Pending Reactor Licensing Proceedings Pending Completion of Remanded Waste Confidence Proceedings, at p. 4 (June 25, 2012) (*filed in Calvert Cliffs 3 Nuclear Project, LLC, et al., Docket No. 52-016-COL*). Thus, the safety of indefinite storage of spent fuel

on-site must be resolved before the two IPEC reactors can be granted a license to generate yet more waste that cannot be disposed.

Thus, either the applicant or the Staff must now examine the future dangers of spent fuel storage for an indefinite period on-site. To the extent that the contention goes beyond the normal scope of AEA contentions on relicensing, the legal basis for the contentions is that the NRC is required to comply with the AEA when issuing a license. Under the AEA, to issue a license the NRC must find that there will be "adequate protection to the health and safety of the public." 42 U.S.C. § 2232(a). This has been interpreted by NRC Commission to mean that it must be able to find "reasonable assurance that the health and safety of the public will not be endangered by operation of the facility. . . ." 10 C.F.R. § 50.35(c); see also *id.* §§ 50.40(a), 50.57(a)(3). The "reasonable assurance" standard was upheld by the Supreme Court in the landmark case of *Power Reactor Development Co. v. Int'l Union, Electrical Workers*, 367 U.S. 396, 81 S. Ct. 1529, 6 L. Ed. 2D 924 (1961). In that case, the Supreme Court held that the Commission must make a "definitive finding" on safety at the time the license to operate is granted. *Id.*

Because the Commission cannot predict when the waste will leave a reactor site, the NRC Staff and the applicant are obligated to analyze the safety of storing waste on-site indefinitely after the license has expired. *Minnesota v. NRC* 602 F.2d 412 (D.C. Cir. 1979). In *Minn. v. NRC*, the court remanded a petition challenging an NRC licensing decision for a determination whether there was "reasonable assurance" that spent fuel could be stored safely at sites. *Id.* Neither the NRC Staff nor Entergy has addressed the

safety of long-term storage of waste at Indian Point. Thus, this showing must still be made.

Because the Court of Appeals vacated the WCD Update and long term or indefinite storage of additional wastes on the IPEC would be the foreseeable result of allowing the reactor to continue operating, to comply with the Atomic Energy Act the NRC must perform a thorough analysis of the safety issues raised by the potentially indefinite on-site storage of the additional spent fuel to be generated, which is one of the foreseeable outcomes of licensing an extended period of operation. Thus, the applicant must provide the NRC with a basis to conclude that such storage meets the safety requirements of the AEA or the NRC Staff must devise its own basis. At present, there is no good basis for such a finding.

In general, the Entergy aging management plan is inadequate because it fails to extend beyond the period of extended operation. It is also inadequate in specific areas even during the period of extended operation, as discussed in detail below.

A. The NRC Must Perform Further Safety Review

As the D.C. Circuit Court has twice recognized, in light of the reasonable prospect of indefinite storage at reactor sites well beyond this timeframe, the Atomic Energy Act requires site-specific review of the safety impacts of indefinite onsite storage. *Minnesota v. NRC*, 602 F.2d 412 (D.C. Cir. 1979), accord *Potomac Alliance v. NRC*, 682 F.2d 1030, 1038 (D.C. Cir. 1982). Because it is somewhat unclear to Petitioner who is legally responsible for this task, Petitioner contends that it should be done by either the Applicant or the Staff, or both. In addition, because the casks and pools (in which spent fuel is currently and will continue to be, stored in the future), along with ancillary

equipment like the fuel cladding and the flexible boron wrapping, are long lived passive components that the licensee cannot assume will require no inspection of maintenance indefinitely, the Applicant must provide an adequate aging management plan for of these components and associated equipment. In addition, the current aging management plan is inadequate because plan does not include full inspection of the liner and concrete.

Many experts also have safety concerns as a result of increasing fuel pool density. *See* The spent-fuel crisis: Region's nuclear plants pack pools with waste Special report: The canary in the nuclear plant. Stamford Advocate. Apr. 5, 2011.⁷ David Lochbaum, a former nuclear power plant operator and a member of the Union of Concerned Scientists, testified before the Blue Ribbon Commission on America's Nuclear Future 2010. *Id.* He testified that limited space causes the rods to increase in temperature at a faster rate if there are any significant reductions in cooling water. *Id.*

Examples of specific issues that site-specific and generic safety analyses fail to address, include without limitation:

- I) The Applicant relies upon a one-time inspection of only 40% of the liner of the spent fuel because the fuel density is too great to allow more thorough inspection. *See* Prefiled Gundersen Testimony at p. 7.
- II) The long-term degradation of the liner and the concrete for the spent-fuel pool must be monitored and action taken when these components no long fulfill their safety function. The SFP Aging Report discusses aging problems at many reactors, including IPEC. In another instance, the U.S. Department of Energy's Idaho National Laboratory, which holds damaged fuel rods from Unit 2 of the

⁷ Available at <http://www.stamfordadvocate.com/local/article/The-spent-fuel-crisis-Region-s-nuclear-plants-1309964.php#ixzz2093bL0PW>.

Three Mile Island Plant, has also experienced concrete deterioration. While the concrete modules were built in 1999 with the expectation they would last for fifty years, they are "showing significant cracking and degradation" according to an NRC letter dated April 7, 2011.⁸ The walls are two feet thick and are apparently worsening in their structural integrity due to freezing and thawing of water that has found its way into the concrete infrastructure. This has caused pieces of concrete to break away from the modules; indicating that they are no longer water-tight. In 2008, the Department of Energy found that what was initially deemed as "cosmetic" by the NRC in 2000, now appeared to hinder the module's ability to shield the fuel rods from natural phenomena and the public from any radiation emitted there from. See Alvarez, Robert. *Spent Nuclear Fuel Pools in the US: Reducing the Deadly Risks of Storage*, Environmental Defense Institute News on Environmental Health and Safety Issues, June 2011.⁹

- III) The long-term degradation of the Boraflex or other wrapping around the fuel assemblies in the spent-fuel pool.¹⁰ As Mr. Gundersen describes in his Declaration, the applicant's proposals in this regard are inadequate. Gundersen Decl. ¶¶ 15-37.
- IV) The potential for ongoing leaks of radioactivity from existing spent-fuel pools will increase over the long term. See maps showing current plume of

⁸ Available at NRC ADAMS ML11097A028 <http://pbadupws.nrc.gov/docs/ML1109/ML11097A028.pdf>

⁹ Available at <http://www.environmental-defense-institute.org/publications/News.11.June.Final.pdf>

¹⁰ Degradation of Boraflex has been recognized as potentially problematic for over 10 years, while the Staff has more recently highlighted degradation of alternatives. <http://www.nrc.gov/reading-rm/doc-collections/commission/secys/1996/secy1996-122/1996-122scy.html> & <http://edocket.access.gpo.gov/2010/2010-10389.htm> (both last visited January 24, 2011).

radioactivity extending from the spent-fuel pool to the Hudson River available at Exhibit A to ML081340325.

- V) Finally, as shown in the report by Gordon Thompson cited above as “Environmental Impacts”, Petitioner believes that long-term wet storage of spent-fuel in high-density racks does not meet the NRC requirements for adequate protection and renders the plant excessively vulnerable to terrorism. Even the analysis from Sandia National Laboratories cited in the Temporary Storage Rule recognizes that a spontaneous propagating spent fuel pool fire could occur. See Temporary Storage Rule at 81,034. Analysis by the National Academy of Sciences specifically suggests that the NRC consider moving spent-fuel more expeditiously from wet storage to dry storage. *See id.* This analysis must now be done on a site-specific basis for IPEC.

These are very real safety concerns that have created incidents at other facilities. In reviewing the past thirty years of spent fuel pool management, there have been at least sixty occasions where substantial losses of spent fuel water have occurred at U.S. reactor sites. See Alvarez, Robert. *Spent Nuclear Fuel Pools in the US: Reducing the Deadly Risks of Storage*, Environmental Defense Institute News on Environmental Health and Safety Issues, June 2011.¹¹ Ten such occurrences happened after September 11, 2001, when the government alleged it would strengthen nuclear safety mechanisms. *Id.* In addition, the passage of time has inherently caused the corrosion of barriers that halt nuclear reactions from occurring in spent fuel pools. *Id.* This degradation has been so severe at some reactor sites that these barriers do not function correctly. In June 2010,

¹¹ available at <http://www.environmental-defense-institute.org/publications/News.11.June.Final.pdf>

the NRC fined Florida Power and Light \$70,000 for failing to report its spent fuel pool criticality safety margin had been exceeded for five years at the Turkey Point reactor. *Id.* Self-reporting mechanisms caused the NRC to be unaware of the extensive deterioration of neutron absorbers in the Turkey Point pools and that there were significant delays in replacing them. *Id.*

III. The Continued Storage Rule Does Not Resolve These Safety Issues Generically

The Continued Storage Rule statement of basis states: “C7. Does the rule address the safety of continued storage of spent fuel? No. . . . the NRC specifically sought public comment on this issue and decided not to address the continued safe storage of spent fuel in the rule text itself.” 79 Fed. Reg. 56,252. The text further states that based on current regulatory oversight, “the NRC concludes that spent fuel can be safely managed in spent fuel pools in the short-term timeframe and dry casks during the short-term, long-term, and indefinite timeframes evaluated in the GEIS.” 79 Fed. Reg. 56,253.

This shows that the Commission can no longer be said to have made generic findings on the safety of on-site spent fuel storage. It notably did not repeat the safety findings regarding long-term fuel storage that the vacated WCD Update. If the Commission did not believe it needed such findings to exclude aging management of spent fuel pools from licensing proceedings, it would have simply dismissed this contention. Furthermore, in the Continued Storage Rule, the Commission has for the first time recognized that spent fuel pools are only a short-term option for fuel storage. Therefore, in the absence of a time-limit on the life of the spent fuel pool, the Commission has determined that there is a potential safety issue. It has also reinforced the need for robust aging management of the spent fuel pool, by omitting any generic

safety findings regarding fuel storage in such pools. Finally, the Continued Storage Rule states that “[s]pent fuel storage during the period of operations has been considered in site-specific licensing of . . . license renewals.” 79 Fed. Reg. § 56,242. Thus, it is clear that on-site storage of spent fuel is *not* generically excluded from license renewal.

The Board should note that although the text of 10 C.F.R. § 51.23 on the NRC website does not reflect these findings, it has not been updated since July 10, 2014. The new version makes no reference to safety of fuel storage, only to environmental findings. 79 Fed. Reg. § 56,260.

IV. The New Contention is within the Scope of License Renewal

Although the existing rules do not contemplate the assessments that Petitioners contend are missing, it is clear that to issue a valid license, the NRC must comply with the AEA. This Board has already determined that these issues are within the scope of license renewal, despite the fact that the Commission ultimately determined that the contentions were barred because of the imminent WCD update that has now been vacated.¹² Indeed, this Board held “that the proposed contentions raise significant legal and policy issues and that resolution of these issues would materially advance the orderly disposition of this proceeding.” The issue of the safety of indefinite waste storage on-site while previously inadmissible as outside the scope of this proceeding is now open for litigation because the Commission decided not to make safety findings about it.

Second, as discussed above, the safety contention raises issues about the aging of long-lived passive components, which are at the heart of the relicensing safety review, and requests the agency to comply with the AEA, which is of course mandatory. Finally, if the Commission thought the contention was out of scope, it would surely have

¹² CLI-10-19.

dismissed it along with the many other pending contentions regarding waste storage.

V. The New Contention Raises Multiple Material Disputes

The regulations require petitioners to “[d]emonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding.” 10 C.F.R. § 2.309(f)(1)(iv). A showing of materiality is not an onerous requirement, because all that is needed is a “minimal showing that material facts are in dispute, indicating that a further inquiry is appropriate.” *Georgia Institute of Technology*, CLI-95-12, 42 N.R.C. 111, 118 (1995); *Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process*, 54 Fed. Reg. 33,171 (Aug. 11, 1989).

At present because there is no generic study on impacts of on-site storage, licensing decisions must now be supported by work analyzing the safety of indefinite on-site storage. *Minnesota v. NRC*, 602 F.2d 412 (D.C. Cir. 1979); *accord Potomac Alliance v. NRC*, 682 F.2d 1030, 1038 (D.C. Cir. 1982).

As mentioned above in the basis section, in its application Entergy has also failed to put forward any effective aging management plans for the spent-fuel pool liners and concrete, for the spent fuel pools themselves, or for associated components, such as the boron wrapping of the fuel assemblies. In the absence of such analyses it is clear there is a material dispute about compliance with AEA. In addition, as mentioned previously, in its order dated Feb. 12, 2010 this Board found that “the issues would materially advance the orderly disposition of this proceeding.”¹³ Moreover, Petitioners expect that the answers to this Petition will demonstrate further sharp factual and legal disputes between the parties that will need to be resolved through a hearing.

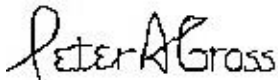
¹³ See Feb. 12, 2010 Order at 1

As discussed in the basis section above, a number of specific safety issues are problematic. For example, the many reports produced by Dr. Gordon Thompson make it plain that he believes that storage of spent fuel in wet pools is far less safe than the NRC Staff believe and that the staff should take further steps to improve the safety of spent fuel pools. However, to date this issue has been legally excluded from the proceeding because of the Waste Confidence Rule. Because the Court of Appeals vacated the WCD Update and the Commission envisions long-term on-site use of wet pools as well as dry casks, this material dispute is properly raised by the safety contentions as are the other specific issues mentioned in the basis section above.

VI. Contention SC-4 is Timely.

CONCLUSION

For the foregoing reasons, this Board should admit Petitioners' proffered contention into this proceeding.



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Dated: October 1, 2014

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305 (as revised), I certify that, on this date, copies of the Notice of Appearance were served upon the Electronic Information Exchange (the NRC's E-Filing System), in the above-captioned proceeding.

Dated: October 1, 2014

/s/ Peter A. Gross

Signed electronically

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