

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of:

Consideration of Environmental Impacts of
Temporary Storage of Spent Fuel After Cessation
of Reactor Operation

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COMMENTS SUBMITTED BY THE OFFICE OF THE ATTORNEY GENERAL OF THE
STATE OF VERMONT WITH THE VERMONT DEPARTMENT OF PUBLIC SERVICE,
AND BY THE OFFICE OF THE ATTORNEY GENERAL OF THE STATE OF NEW YORK
CONCERNING SCOPE OF CONSIDERATION OF ENVIRONMENTAL IMPACTS OF
TEMPORARY STORAGE OF SPENT FUEL AFTER CESSATION OF REACTOR
OPERATION

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INTRODUCTION

Since the advent of the civilian nuclear power program in 1954, there has been a concern with the decision to allow nuclear wastes to be generated before there was an available, safe, and environmentally benign system for disposal of the highly toxic wastes that would inevitably be produced by civilian nuclear reactors. Those concerns initially peaked in the 1970s when challenges were raised before the Nuclear Regulatory Commission (“NRC” or “Commission”) and federal courts as it became evident that assumed methods for removing nuclear wastes from local reactor sites were not being implemented.¹ That problem continues to this day, as was made clear in *New York v. NRC*, 681 F.3d 471 (D.C. Cir. 2012), the ruling that necessitates this renewed rulemaking.

Now in 2013—60 years after the start of the nuclear power program—NRC is once again called upon to address the issues associated with the continued production of nuclear wastes

¹ See e.g., *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519 (1978) (rejecting a challenge, among other things, to the procedures used by NRC to develop the S3 Table’s analysis of the environmental risks of nuclear waste disposal); *NRDC v. NRC*, 582 F.2d 166 (2d Cir. 1978) (rejecting a request to suspend all nuclear power plant licensing pending the establishment of a permanent nuclear waste disposal solution); *Minnesota v. NRC*, 602 F.2d 412 (D.C. Cir. 1979) (finding NRC violated NEPA by failing to make adequate findings to support the conclusion that there was reasonable assurance that an offsite storage solution will be available when needed, *i.e.* by the years 2007-2009); *In re Aiken County*, 645 F.3d 428, 430-31 (D.C. Cir. 2011) (“This case once again brings before this court the federal government’s controversial ongoing attempt to devise a permanent solution to the problems of civilian radioactive waste disposal.” (citing *Nevada v. DOE*, 457 F.3d 78 (D.C. Cir. 2006) (challenging the DOE’s Final Environmental Impact Statement and Record of Decision for the Yucca Mountain nuclear waste repository); *Nevada v. DOE*, 400 F.3d 9 (D.C. Cir. 2005) (challenging a DOE order denying Nevada a grant to fund its participation in an NRC proceeding regarding Yucca Mountain); *Nuclear Energy Inst., Inc. v. EPA*, 373 F.3d 1251 (D.C. Cir. 2004) (challenging a congressional joint resolution and the associated federal regulations selecting Yucca Mountain as the site for the federal nuclear repository); *Northern States Power Co. v. DOE*, 128 F.3d 754 (D.C. Cir. 1997) (requesting a writ of mandamus requiring DOE to comply with the Nuclear Waste Policy Act)).

when there is not a permanent, safe, and secure facility for the disposal of such wastes and when, unlike previous efforts to address this issue, NRC does not have confidence that such a facility will be available by any specific date and has not made a supportable finding that such a facility will ever exist. The United States Court of Appeals for the District of Columbia Circuit (“D.C. Circuit”) has ruled, and NRC has agreed, that NRC must address these issues in the context of a NEPA-qualified environmental review, either by preparing a finding of no significant impact (“FONSI”) or an environmental impact statement (“EIS”). NRC has agreed that the review must be conducted as an EIS. NRC has also agreed that the development of the waste confidence rule involves a major federal action within the meaning of the National Environmental Policy Act, 42 U.S.C. § 4332(2)(C) (“NEPA”).

The major federal action for which the EIS is being prepared is to determine whether to allow additional nuclear wastes to be generated when there is no permanent, safe, and secure waste disposal facility, no date certain by which such a facility will exist, and no certainty that it will ever exist, and, if the generation of such further nuclear waste is to be allowed, what alternatives exist to the current practice of allowing nuclear wastes to be stored at individual reactor sites indefinitely and in spent fuel pools for as long as the licensee chooses? As the D.C. Circuit recognized in *New York v. NRC*, the answers to these questions and this rulemaking will play a significant role in, and are a predicate to, NRC’s future licensing proceedings wherein NRC will decide whether or not to issue various operating licenses to regulated facilities that generate nuclear waste and then store that waste on site at those facilities.

The current rulemaking is merely the most recent outgrowth of previous NRC attempts to address the environmental and safety implications of the nuclear waste disposal dilemma. The

most significant difference between the relevant factors for this current rulemaking and all previous rulemakings addressing these issues is that now, for the first time, NRC has acknowledged that it does not have confidence that there will be a solution to the permanent waste disposal problem by any particular date. Rather, for the first time, the best available evidence indicates that storage of spent nuclear fuel at reactor sites will be indefinite—*i.e.* no one can say when those wastes will be removed from the sites or even that they will. There is not even a best estimate of when, much less how or where, such wastes will be moved from the sites. Thus, for the first time it has become essential that in evaluating the environmental and safety implications of allowing further nuclear wastes to be generated, NRC must consider the environmental implications of existing waste storage at reactor sites based on the reasonable assumption that such wastes will remain at the sites forever. This undeniable reality substantially changes the appropriate scope of the analyses that NRC must undertake in order to fully examine the safety and environmental implications of allowing even more spent fuel to be generated.

When NRC previously assumed and predicted that a permanent nuclear waste repository would be available by a date certain—the latest of such dates being 2025—long-term safety and environmental problems associated with spent fuel pool use and onsite spent fuel storage were brushed aside as of minimal relevance.² That is no longer the case because with indefinite spent

² Even those previous analyses were flawed because they were based on an implied assumption that the date of the availability of the permanent repository was the date when the spent fuel would no longer be present at the reactor site. However, NRC estimates that even when the permanent repository is in place, it will take at least 24 additional years to move the wastes generated during the first 40 years of operation from a reactor site to the permanent repository. Final Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada

fuel storage at reactor sites and continued generation of additional spent fuel—essentially the status quo—NRC, for the first time, must include a full range of alternatives to continued spent fuel generation, including disallowing new spent fuel generation, putting all spent fuel into dry casks as soon as it is sufficiently cooled, and shipping all spent fuel to interim spent fuel storage facilities, to mention only a few.

Of equal significance is the fact that with indefinite spent fuel storage at reactor sites comes the need to look at the site-specific implications of such indefinite spent fuel storage because with indefinite storage comes the increased probability that accidents and malevolent acts can cause catastrophic releases of nuclear fission products at individual power plant sites. NRC has previously recognized that the environmental implications of the release of nuclear fission products from a power plant's reactor require a site-specific, and not a generic, analysis. *See* 10 C.F.R. Part 51, Subpart A, Appendix B (finding that the impacts of severe accidents at reactor sites cannot be addressed generically but excluding spent fuel related accidents from consideration due to the now-rejected Waste Confidence Rule (10 C.F.R. § 51.23)). Any new NRC rule or EIS should similarly provide for the site-specific review of severe accidents to a power plant's nuclear spent fuel facilities and site-specific alternatives to mitigate such impacts. In addition, there are important, and site-specific, economic implications of the indefinite storage of spent fuel at reactor sites. Property in the vicinity of the plant will have its potential uses and value impacted by the continued presence in the neighborhood of all the downside risks of a nuclear reactor—enormous quantities of highly toxic nuclear wastes and the risks of accidental

February 2002 DOE/EIS-0250 Final Readers Guide and Summary at S-2. If 20 additional years of spent fuel are generated as a result of license renewal, the time for removal of all spent fuel from a reactor site is likely to expand to 36 years.

or malevolent events causing a release of that waste—without any of the benefits of an operating nuclear reactor generating tax revenue, income, and jobs, all of which are frequently cited by NRC as counterbalances to the adverse impacts of nuclear plants. *See e.g.* Generic Environmental Impact Statement for License Renewal for Nuclear Plants, NUREG-1437 (1996) Volume 1 at 3-11 to 3-14.

The following comments further develop these issues. Also included are comments on the appropriate procedures that NRC should choose to assure that the issues considered in these new analyses are fully examined and that a complete and technically competent record is created as the basis for the final decisions to be reached by the Commission.

NEPA AND NUCLEAR WASTES

By the late 1970s public concern with the ongoing, and expected ramping up, of nuclear waste generation without having a permanent waste disposal solution in place, particularly with President Carter's sound decision to cancel plans to recycle nuclear wastes to create bomb-ready plutonium for use in mixed oxide fuels, resulted in the first direct court challenge to the waste disposal policy:

The crux of the case is current uncertainty about the prospects for developing and implementing safe methods for the ultimate disposal or even long-term storage of the highly toxic radioactive wastes created in the process of nuclear power generation.

Minnesota v. NRC, 602 F.2d 412, 413 (D.C. Cir. 1979). The Court concluded that the case must be remanded to the NRC for a serious consideration of those issues, noting the following:

Cf. NRDC v. NRC, 178 U.S.App.D.C. 336, 361, 547 F.2d 633, 658 (1976) (Tamm, J., concurring in result) (“*NEPA requires the Commission fully to assure itself that safe and adequate storage methods are technologically and economically feasible. It forbids reckless decisions to mortgage the future for the present, glibly*

assuring critics that technological advancement can be counted upon to save us from the consequences of our decisions”). As appears below, the Supreme Court, in Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 98 S. Ct. 1197, 55 L. Ed. 2d 460 (1978), reversed the ruling of the majority opinion requiring further procedures but remanded for the kind of inquiry called for in Judge Tamm’s concurring opinion.

Id. at 417 n.6 (emphasis added to identify the portion of Judge Tamm’s concurrence in *NRDC v. NRC* cited with approval by Commissioner Svinicki at the time of her vote on the now-voided version of the waste confidence rule (Notation Vote, Response Sheet, Sept. 24, 2009 at 3)). In the *Minnesota* case Judge Tamm also concurred, concluding that:

if the Commission determines it is not reasonably probable that an offsite waste disposal solution will be available when the licenses of the plants in question expire, it then must determine whether it is reasonably probable that the spent fuel can be stored safely onsite for an indefinite period. Answers to these inquiries are essential for adequate consideration of the safety and environmental standards of the relevant statutes. It is undisputed that questions involving storage and disposal of nuclear waste pose serious concerns for health and the environment. *See Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 538-39, 98 S. Ct. 1197, 1208-09, 55 L. Ed. 2d 460, 475-76 (1978).*

Our opinion merely remands this case to the Commission for such proceedings as it deems appropriate to determine whether there is reasonable assurance that an offsite storage solution will be available when needed in this case, by the years 2007-2009.

Id. at 419-20 (Tamm, J., concurring) (footnotes omitted).

In short, the Commission was given a clear mandate to use the NEPA process to evaluate the question of when and whether nuclear wastes would be permanently disposed of, including looking into all the environmental implications of those issues. *Minnesota*, 602 F.2d at 417. Although the Commission kept moving the date by which it was confident there would be a permanent and operational nuclear waste disposal facility, it hinged its confidence that there

would be minimal environmental impacts of the spent fuel storage at the plant sites following cessation of plant operations on the existence of such a date and thus a finite date for storage of spent fuel at the site following plant shutdown. With no reasonable possibility of long term, much less indefinite, storage of spent fuel at reactor sites, NRC concluded it never needed to consider alternatives to its plan to continue to authorize generation of more nuclear waste. All this changed when the Commission came to the realization that it was no longer possible to determine a date certain by which a permanent nuclear waste repository would be available. However, NRC sought to avoid the inevitable by finding that a permanent nuclear waste disposal repository would be available “when necessary.” 75 Fed. Reg. 81032 (Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation) (December 23, 2010).

This latest version of the waste confidence decision once again involved an attempt by the Commission to avoid the questions that are at the heart of the dispute about nuclear wastes—specifically, what are the environmental impacts that are reasonably possible to occur if nuclear wastes are left at the reactor sites where they were generated for an indefinite period of time; what alternatives exist that would mitigate those impacts, including precluding further generation of nuclear wastes; and what are the relative costs and benefits of the proposed action and each of the alternatives. Instead, the NRC merely extended the period of time during which wastes could be safely stored at the reactor site from 30 years to 60 years, without any analysis to demonstrate that 60 years was an achievable date for the existence of a permanent waste repository and without any analysis of the fact that, as noted above (footnote 2), it would take 36 years once a permanent repository existed to move all the nuclear waste from a reactor site—meaning the

repository had to be in existence 24 years after the plant shutdown.³ The new rule also sought to avoid the evaluation of the environmental impacts associated with indefinite storage of nuclear wastes at reactor sites and alternatives to the current program for such storage, including allowing additional wastes to be generated, by finding that a permanent waste repository would be available “when necessary.”

That rule has now been overturned by the D.C. Circuit in *New York v. NRC* because it was flawed in several respects, many of which flaws are ignored in the now-proposed scope of the EIS. The Court held that:

We hold 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 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.

New York, 681 F.3d at 473 (emphasis added).

In order to attempt to remedy the flaws identified by the Court, NRC has determined that it will conduct an EIS. The Commission’s regulations regarding the components of a legally sufficient EIS require consideration of alternatives to the proposed action whenever significant environmental impacts are potentially involved. Part 51, Subpart A, Appendix A, Section 4 and

³ For the 13 nuclear reactors that are already shutdown, their 24 years have long passed or will pass shortly, and the continued safety and environmental impacts of storage of nuclear wastes at those sites were never addressed by the waste confidence rule or any of its findings.

Section 5 emphasize the importance of the examination of alternatives: “[t]his section is the heart of the environmental impact statement. It will present the environmental impacts of the proposal and the alternatives in comparative form.” Appendix A to 10 C.F.R. 51 at Section 5. In its final decision based on an EIS the Commission is obligated by its own regulations to:

State whether the Commission has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the alternative selected, and if not, to explain why those measures were not adopted. Summarize any license conditions and monitoring programs adopted in connection with mitigation measures.

10 C.F.R. § 51.103(a)(4).

What is clear is that, for the first time, NRC must address “a possibility that cannot be ignored” *New York v. NRC*, 681 F.3d at 473—it must consider the full range of environmental impacts that can occur as a result of indefinite storage of nuclear wastes at reactor sites and the full range of alternatives to mitigate those environmental impacts.

NRC HAS IMPROPERLY LIMITED THE PROPOSED SCOPE OF THE EIS

Despite the fact that, for the first time, NRC must conduct, and is planning to conduct, a full EIS analysis of the nuclear waste issue as it relates to nuclear wastes stored at individual reactor sites after plant shutdown, the proposed scope of NRC’s analysis falls far short of the legally mandated reach of such an EIS. The premise of the proposed scope of the EIS published by NRC is that the purpose of the EIS is “to support the rulemaking to update the Commission’s Waste Confidence Decision and Rule” (Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation, 77 Fed. Reg. 65137 (Oct. 25, 2012)) thus implying an attempt to narrow the scope of the EIS inquiry by essentially assuming that further production of nuclear wastes without a permanent waste repository in existence will be

allowed and attempting to turn the EIS process into a shell of its required purpose. The proposed scope is apparently limited to “include temporary spent fuel storage after cessation of reactor operation until a repository is made available in either the middle of the century or at the end of the century, and storage of spent fuel if no repository is made available by the end of the century.” 77 Fed. Reg. at 65138. Absent from the scoping description is any indication that the NRC will consider alternatives to mitigate the adverse environmental impacts associated with indefinite, or even long-term, storage of spent fuel at the reactor sites. These omissions stem largely from the NRC’s misinterpretation of the major federal action involved in this case, a misinterpretation that was directly rejected by the Court in *New York v. NRC*.

The NRC’s misperception of the major federal action for which the EIS is being prepared is highlighted by a recent letter from the NRC Chair in response to a letter filed by a number of public interest organizations regarding the proper scope of the EIS, wherein NRC asserts:

The update to the Waste Confidence Rule is the federal action; the “no action” alternative is a decision not to prepare the rule and instead to conduct a site-specific analysis of post-licensed life spent fuel storage for each NRC licensing action that relies on Waste Confidence. As the Commission has stated, the Waste Confidence rule is not a licensing action, it does not authorize the initial or continued operation of any nuclear power plant, and it does not authorize storage of spent nuclear fuel. Thus, licensing of specific reactors or storage facilities is not the purpose of this rulemaking, or the proposed action. A separate NRC action is required before a reactor is licensed and before fuel can be stored after the expiration of a reactor’s license at a specific site. The environmental analysis accompanying each of these actions to license or relicense a nuclear power plant would examine site-specific “no action” alternatives.

Letter from Alison M. Mcfarlane, NRC Chair, to Diane Curran at 2 (Dec. 5, 2012). This view of the scope of the EIS is in direct conflict with the holding of the D.C. Circuit and is likely to

produce a successful challenge to the Commission’s final decision, thus further delaying the resolution of this matter.

The assertions that “the Waste Confidence rule is not a licensing action, it does not authorize the initial or continued operation of any nuclear power plant, and it does not authorize storage of spent nuclear fuel” (Macfarlane Letter at 2) were flatly rejected by the D.C. Circuit in *New York v. NRC*. In that case, Petitioners argued that the “WCD is a major federal action because it is a predicate to every decision to license or relicense a nuclear plant, and the findings made in the WCD are not challengeable at the time a plant seeks licensure.” *New York v. NRC*, 681 F.3d at 476. The D.C. Circuit agreed:

We agree with petitioners that the WCD rulemaking is a major federal action requiring either a FONSI or an EIS. The Commission's contrary argument treating the WCD as separate from the individual licensing decisions it enables fails under controlling precedent.

As we have determined, the WCD is a major federal action because it is used to allow the licensing of nuclear plants.

Id. Attempts by the Commission to avoid this holding by merely reasserting arguments rejected by the D.C. Circuit should be abandoned.⁴

⁴ The NRC cannot delay the current proceeding in the hope of someday having a basis to predict a date by which a permanent waste disposal facility will be available. Rather, the NRC must objectively face the reality that it may not be able to produce a record that would support the current situation in which nuclear wastes continue to be generated in ever-increasing amounts, such wastes remain in spent fuel pools for an indefinite period of time, the use of the far-more reliable dry cask storage option is not mandated, and no effort is made to analyze the implications of, and alternatives to, permanent nuclear waste storage at each nuclear reactor site. *See New York*, 681 F.3d at 474 (“Due to the government’s failure to establish a final resting place for spent fuel, SNF is currently stored on site at nuclear plants. This type of storage, optimistically labeled ‘temporary storage,’ has been used for decades longer than originally anticipated. The delay has required plants to expand storage pools and to pack SNF more densely within them. The lack of progress on a permanent repository has caused considerable

In the past, federal courts have chastised the Commission for using attenuated interpretations of its legal obligations under NEPA. For example, in *Calvert Cliffs' Coordinating Committee v. AEC*, 449 F.2d 1109 (D.C. Cir. 1971), at a time when hearing boards were obligated to review all safety issues in hearings even if the issues were not raised by an intervenor, the agency proposed to preclude the boards from addressing any environmental issues unless they were raised by an intervenor. In response to this attempt to narrow the NEPA review process, the Court concluded:

We believe that the Commission's crabbed interpretation of NEPA makes a mockery of the Act. What possible purpose could there be in the Section 102(2)(c) requirement (that the "detailed statement" accompany proposals through agency review processes) if "accompany" means no more than physical proximity mandating no more than the physical act of passing certain folders and papers, unopened, to reviewing officials along with other folders and papers? What possible purpose could there be in requiring the "detailed statement" to be before hearing boards, if the boards are free to ignore entirely the contents of the statement? NEPA was meant to do more than regulate the flow of papers in the federal bureaucracy.

Id. at 1117.

A few years later in *NRDC v. NRC*, 539 F.2d 824 (2d Cir. 1976), *vacated on grounds of subsequent mootness sub. nom. Allied-General Nuclear Services v. NRDC*, 434 U.S. 1030 (1978), NRC again sought to avoid its NEPA obligations, in that instance with regard to a generic impact statement on the use of mixed oxide fuels. Once again, the federal regulatory agency used purportedly clever legal arguments to create a set of interim criteria that would allow licensing of mixed oxide fuel separation and fabrication even though the generic impact

uncertainty regarding the environmental effects of temporary SNF storage and the reasonableness of continuing to license and relicense nuclear reactors.”).

statement was not complete. The Court explained the Commission action and its rejection of the tactics as follows:

The interim criteria which will be applied to mixed oxide fuel separation and fabrication require Commission inquiry as to whether the activity will place primary reliance on a favorable final decision in GESMO, whether the activity would foreclose safeguards alternatives by committing resources, and whether delay in the conduct of the activity would adversely effect the “overall public interest.” We find these criteria at best vague and at worst disingenuous. An activity need not place primary reliance on a favorable decision on wide-scale use for the activity to severely prejudice the ultimate decision. Second, we are unable to understand how the Commission will be able to determine that a given activity will not foreclose safeguards when those safeguards have not yet been designed or finalized. Finally, the “delay” criteria injects consideration of non-environmental public interest factors which could have the effect of foreclosing the outcome of the test’s application.

Id. at 843.

In the *New York v. NRC* decision that led to this new EIS, the D.C. Circuit also chastised NRC for its efforts to finesse the obligations of NEPA, holding that:

The Commission apparently has no long-term plan other than hoping for a geologic repository. If the government continues to fail in its quest to establish one, then SNF will seemingly be stored on site at nuclear plants on a permanent basis. The Commission can and must assess the potential environmental effects of such a failure.

Nonetheless, whether the analysis is generic or site-by-site, it must be thorough and comprehensive. Even though the Commission’s application of its technical expertise demands the “most deferential” treatment by the courts, *Baltimore Gas*, 462 U.S. at 103, we conclude that the Commission has failed to conduct a thorough enough analysis here to merit our deference.

New York, 681 F.3d at 479, 480-81.

In light of all these precedents, particularly in light of the remand of this matter to the

Commission, the interpretation that NRC proposes to put on the scope of its EIS is an enormous mistake that will have far-reaching and severe consequences for the Commission's goal of conducting its business in an efficient and lawful manner. By failing to squarely confront these issues now, NRC may well push completion of the EIS process out for several additional years as it awaits an appeal and likely reversal of its decision to restrict the scope of this court-mandated environmental review. It is not too late to make this EIS process be what the D.C. Circuit mandated it must be, but the time to accomplish that metamorphosis is now, and not after another remand from the D.C. Circuit.

WHAT SHOULD BE THE SCOPE OF THE EIS?

The States request that NRC take a fresh look at the elementary question: "What should be the scope of the environmental impact statement and the associated rulemaking?" The States submit that the answer to that question should include the following considerations.

First, the EIS should provide a comprehensive and thorough exploration of all the environmental issues associated with continuing to generate nuclear wastes when the Commission is unable to determine that there is a date by which a permanent, safe, and secure repository will exist for disposing of nuclear wastes. NEPA requires nothing less than a comprehensive look at all the potential environmental impacts of the proposed action,⁵ all the

⁵ NEPA requires that the NRC not limit its evaluation of adverse environmental impacts to humans but that it also evaluate the impact of waste storage on non-human biota in the human environment. *See* 40 C.F.R. § 1508.14 (defining "human environment" to include "the natural and physical environment"). Studies done following the Fukushima disaster have documented widespread damage to non-human biota. *See, e.g.*, "Mutant butterflies a result of Fukushima nuclear disaster, researchers say," *available at* <http://news.blogs.cnn.com/2012/08/14/mutant-butterflies-a-result-of-fukushima-nuclear-disaster-researchers-say>; Rachel Nuwer, "Fukushima vs. Chernobyl: How Have Animals Fared?," *available at* <http://green.blogs.nytimes.com/2012/07/12/fukushima-vs-chernobyl-how-have-animals-fared/>.

alternatives to the proposed action that would eliminate or mitigate those adverse impacts and a quantitative comparison of the proposed action and alternatives to it to assure that the best course of action is identified. 42 U.S.C. § 4332 *et. seq.*; *Calvert Cliffs*, 449 F.2d at 1114 (“all of these [NEPA] Section 102 duties are qualified by the phrase ‘to the fullest extent possible.’ We must stress as forcefully as possible that this language does not provide an escape hatch for footdragging agencies; it does not make NEPA’s procedural requirements somehow ‘discretionary.’ Congress did not intend the Act to be such a paper tiger. Indeed, the requirement of environmental consideration ‘to the fullest extent possible’ sets a high standard for the agencies, a standard which must be rigorously enforced by the reviewing courts.”)

Second, the EIS should rigorously explore all of the potential environmental impacts associated with long-term and indefinite storage of nuclear wastes at reactor sites following reactor shutdown, including the risk of fires, earthquakes, flooding (resulting from tidal and storm surges or infrastructure failures), loss of power and cooling capacity, deterioration of the social order (either briefly or for an extended period of time), deterioration of spent fuel pools and dry casks, failure of funding sources to provide sufficient resources to manage and secure nuclear wastes at each reactor site long after the site is no longer a source of any income to its owner, the social and economic impacts on the communities where these nuclear wastes will remain indefinitely at sites where there are no operating reactors, and malevolent acts. Part of this analysis should include consideration of the synergistic impacts created by the storage of nuclear wastes at each reactor site when the site decommissioning is substantially delayed under the so-called SAFESTOR option, as opposed to prompt decommissioning of closed reactors.

Third, the EIS should explore all reasonable alternatives to continued generation of

nuclear wastes and continued storage of nuclear wastes at reactor sites in the manner now allowed, including prohibiting further production of nuclear wastes until the Commission can determine that there is date by which a permanent, safe, and secure repository will exist for disposing of nuclear wastes. *New York*, 681 F.3d at 474 (“The lack of progress on a permanent repository has caused considerable uncertainty regarding the environmental effects of temporary SNF storage and the reasonableness of continuing to license and relicense nuclear reactors.”). The EIS should also explore measures that would mitigate the adverse impacts of continued production of nuclear wastes—*i.e.* alternatives to indefinite use of spent fuel pools, such as transfer to dry cask storage at the earliest possible time and establishing off-site permanent nuclear waste storage facilities at secure locations like military bases, to mention only a few.

Fourth, the analysis of the adverse impacts of continued production of nuclear wastes and continued storage of that waste at reactor sites and the analysis of the mitigation alternatives to the status quo should use the procedures already developed for analyzing mitigation alternatives for severe accidents, thus producing objective and quantitative bases for comparing alternatives to the proposed action. The EIS must clearly delineate those issues that will be left to be evaluated on a site-specific basis, identify how these site-specific issues are to be addressed, and make clear that such site-specific consideration is to be explicitly authorized by regulation subject to the normal requirements of 10 C.F.R. § 2.309 on admissibility of contentions but without compelling any party to have to use 10 C.F.R. § 2.335 to seek a waiver of a rule in order to obtain a hearing on the site-specific aspects of post-operation nuclear waste storage at reactor sites. The site-specific issues must be addressed in each pending licensing proceeding before any lifting of the Commission’s current stay on final decisions on all pending and subsequently

filed applications. In addition, the Commission should establish a procedure by which the public will have an opportunity to raise, before an Atomic Safety and Licensing Board, site-specific issues regarding nuclear waste remaining at reactor sites following shutdown, at least for those facilities that received operating licenses or license extensions on or after December 23, 2010, when the Commission formally abandoned the position that it could establish a date by which a permanent nuclear waste repository would be available. 75 Fed. Reg. 81032 (Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation) (Dec. 23, 2010). This right should exist regardless of whether such issues were sought to be raised at the time of the previous licensing action and should not be limited to contested licenses or previously admitted parties.

During the initial public scoping meeting in Rockville, the State of New York raised this issue and suggested that NRC undertake a site-specific severe accident mitigation alternatives analysis for the continued storage of spent nuclear fuel at the Indian Point nuclear site similar to the Severe Accident Mitigation Alternatives (“SAMA”) analysis that NRC conducts for severe reactor accidents. *See* Oral Comments of New York Assistant Attorney General J. Sipos (Public Scoping Meeting for the Environmental Impact Statement to Support an Updated Waste Confidence Decision and Rule November 14, 2012 1:00 P.M. EST) Transcript of Proceedings at 37-40 & NYS Presentation Slides, ML12331A347. Such a spent nuclear fuel SAMA analysis would identify site-specific environmental impacts and site-specific mitigation alternatives to minimize or eliminate those impacts.

NRC should also preserve for site-specific consideration the full extent of the adverse environmental impacts associated with indefinite storage of nuclear wastes at reactor sites to the

extent such an impact depends upon the nature of the local environment, local economy, local land use, and local resources at risk in the event of a catastrophic release of nuclear wastes into the air, soil, water, or groundwater, etc.

Fifth, one commenter suggested that NRC should evaluate the benefits of continued nuclear waste production against the adverse impacts of halting that production. *See* Oral Comments of Norman Meadow with Maryland Conservation Council (Public Scoping Meeting for the Environmental Impact Statement to Support an Updated Waste Confidence Decision and Rule November 14, 2012 9:00 P.M. EST) Transcript of Proceedings at 18-21. The States believe that if NRC is going to assume that continued production of nuclear wastes, and thus electricity from nuclear reactors, is a benefit and use that benefit, either implicitly or explicitly to justify adverse environmental impacts from further nuclear wastes production, then it must quantify those alleged benefits and the adverse impacts and take a hard look at both of them.

PROPOSED PROCEDURES FOR THE EIS PROCESS

This is potentially the single most important—certainly in terms of public concern and the impact on the further use of nuclear reactors—rulemaking NRC has undertaken since the rulemakings involving peak clad temperatures for fuel rods in the event of a loss of coolant accident (the so-called ECCS hearings) and adoption of radiation protection standards (the so-called “As Low As Reasonably Achievable” hearings (“ALARA”)). In both instances, the NRC convened a hearing board to evaluate the NRC Staff analyses, to receive testimony from interested parties and to render an initial decision subject to the usual Commission review process. The Commission should be no less diligent in assuring a full airing of the issues involved in this rulemaking and should convene a hearing board to receive the evidence and

conduct examination of witnesses.

Convening an Atomic Safety and Licensing Board

The Commission has provided for the possibility of Informal Hearings for rulemakings in 10 C.F.R. § 2.805 which provides, in pertinent part, that the “Commission may hold informal hearings at which interested persons may be heard, adopting procedures which in its judgment will best serve the purpose of the hearing.” For the following reasons, the States believe that the procedures set forth in Subpart L (Informal Hearing Procedures for NRC Adjudications) would be most appropriate for assuring the Commission that it has developed a complete record sufficient for Commission determination of the important issues involved in this EIS and rulemaking process.

First, there are diametrically opposed views on critical issues regarding environmental impacts and alternatives. Since the NRC Staff has already made clear its position on most of these issues in prior analyses and NUREG documents, it would be patently unreasonable and unfair to allow the Staff to also resolve conflicts between its technical judgments and the technical judgments of others. This is not a situation where the NRC Staff is essentially neutral and undertaking the gathering of information and resolution of issues in an unbiased manner. The States do not suggest that the Staff’s strongly held views reflect poorly on the Staff; we commend them for having worked diligently to develop their views. However, it is unrealistic to believe that once having developed those strong views over so many years that the Staff can provide the kind of even-handed analysis that is required to provide the Commission with a full and fair record for decision.

Second, the Atomic Safety and Licensing Boards have demonstrated over the years that

their management of the process of receiving evidence and processing conflicting evidence will expedite resolution of the issues. Hearing Boards have demonstrated their ability to develop complete records and to do so efficiently through control of the hearing process, including establishment of filing deadlines, setting of limitations on the length of filings, oral presentations and examination of witnesses, passing on the admissibility of evidence, creation of procedures to receive proposed findings of facts and conclusions of law and preparing a cogent and complete final opinion. They are thus best positioned to create a clear, concise, and defensible record. That record and its initial decision will go a long way toward simplifying the work of the Commissioners in reviewing the final decision and controlling the role of the parties who seek review, or defense, of the Board's decision. The structure provided by the Subpart L procedures will, as was intended when the rules were adopted, make for a more orderly record and, in the final analysis, a more defensible final decision by the Commission.

Prompt Disclosure by NRC of All Relevant Documents Within NRC's Possession or Control and All Documents Reviewed by NRC Staff as Part of Rulemaking

In addition to providing for an Informal Hearing, the Commission should assure that all the documents being reviewed by NRC Staff as part of the EIS process are made available to the public no later than when the Draft Supplemental Environmental Impact Statement ("DSEIS") is published. This would include often hard-to-locate documents that were created by NRC contractors, national laboratories,⁶ the Electric Power Research Institute ("EPRI"), the Nuclear Energy Institute ("NEI"), the Department of Energy, National Academies of Science, and foreign

⁶ This would include information from national laboratories, including, but not limited to: Sandia National Laboratories ("SNL"), Pacific Northwest National Laboratories ("PNNL"), Oak Ridge National Laboratories ("ORNL"), and Brookhaven National Laboratories ("BNL").

regulators. It would also include documents within NRC's or the federal government's possession or control that do not support, or are contrary to, NRC Staff's preferred outcome. States play an important role in our federal system, and interested States should have unfettered access to such documents and information. Claims of proprietary status and other impediments to full public disclosure of the documents reviewed by NRC Staff in the course of developing its DSEIS are contrary to the purposes of NEPA and serve only to foreclose a full and fair examination of the relevant considerations. "Publication of an EIS, both in draft and final form, also serves a larger informational role. It gives the public the assurance that the agency has indeed considered environmental concerns in its decision making process, and, perhaps more significantly, provides a springboard for public comment." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348-49 (1989) (internal citations omitted). To serve the informational goals of the EIS process, the NRC Staff needs to disclose *all* of the documents reviewed in developing the DSEIS or Final Supplemental Environmental Impact Statement ("FSEIS") and documents which are relevant to the DSEIS or FSEIS.

Substantive Response by NRC Staff to Scoping Comments

Finally, the States also believe the NRC Staff should expand its planned response to scoping comments. Rather than merely summarize the comments received on the scoping issues when it issues the draft EIS, the Staff should also provide a full discussion of the basis for the Staff's final determination of the scope of the proceeding and its reasons for rejecting any suggested alternate issues to be included in its DSEIS. If this does not occur at the time of the publication of the draft EIS, the Staff will end up with comments on its draft that repeat concerns raised in the scoping process without receiving the benefit of the commenters' reaction to the

Staff's reasoning in choosing to reject scoping suggestions. In addition, if the NRC Staff provides its reasoning in choosing the scoping approach and in rejecting suggestions to the contrary only at the time of publication of the final EIS, it will either deprive the public of a meaningful opportunity to respond to the Staff position—which reasoning is not articulated in the Federal Register Notice of October 25, 2012—or will unnecessarily lengthen the comment period by providing such an opportunity only after issuance of the final EIS.

CONCLUSION

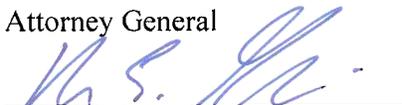
After more than three decades of failing to address the very real and widespread concern with the continued production of nuclear wastes without a permanent, safe, and secure nuclear waste repository NRC now has the opportunity, albeit mandated by a Federal Court, to apply its considerable expertise to address these concerns. It can now fully and completely explore the potential environmental consequences of continuing with the status quo, and can now seriously and thoroughly explore alternatives to the status quo, including not only cessation of further production of nuclear wastes but better ways to store such nuclear wastes than leaving them in spent fuel pools at reactor sites for an indefinite period after reactor shutdown. The proposed scope of the EIS process fails to provide for a meaningful and thorough examination of these concerns and purports to rely on legal arguments expressly rejected by the D.C. Circuit. It is not too late to correct these errors and assure a vigorous, fair, and comprehensive exploration of the very real environmental impacts of nuclear waste storage at reactor sites and viable alternatives to mitigate those impacts.

Dated: January 2, 2013

Respectfully Submitted,

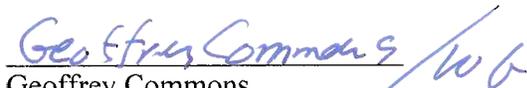
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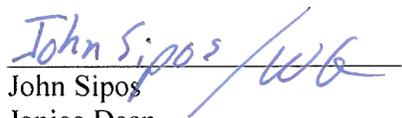
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