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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
RII IIMAKINGS AND
AD.II IINDICATIONS STAFF

In the Matter of:

Waste Confidence Decision Update

RIN 3150-AI47

and

NRC-2008-0482

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

NRC-2008-0404

SUPPLEMENTAL COMMENTS BY THE OFFICE OF THE ATTORNEY GENERAL OF THE
STATE OF NEW YORK CONCERNING THE NUCLEAR REGULATORY COMMISSION'S
PROPOSED WASTE CONFIDENCE DECISION UPDATE AND
CONSIDERATION OF ENVIRONMENTAL IMPACTS OF TEMPORARY STORAGE OF
SPENT FUEL AFTER CESSATION OF REACTOR OPERATION

This rulemaking proceeding concerns NRC's review of its previous "waste confidence" determinations. In October 2008, NRC invited public comment on this issue, and a number of States provided written statements. Since those public comments were submitted a year ago, various events have occurred that are relevant to these ongoing rulemaking proceedings. These recent events confirm the State of New York's concern about the continued storage of radioactive waste at the Indian Point reactors, which are located in Westchester County just 24 miles north of New York City. Accordingly, the State of New York respectfully submits the following comments to supplement its previous statement.

I. Introduction and Summary of Comments

It is undisputed that questions involving the storage and disposal of nuclear waste pose significant health and environment concerns that require analysis under the National Environmental Policy Act (NEPA) and the Atomic Energy Act (AEA). In a 1979 case involving placement of additional nuclear waste in the spent fuel pools at Vermont Yankee and Prairie Island, the Court of Appeals for the District of Columbia Circuit instructed NRC to determine whether there was reasonable assurance that an off-site storage solution will be available by 2007-2009. *Minnesota v. NRC*, 602 F.2d 412, 418, 420 (D.C. Cir. 1979). Following that court

order, NRC embarked on a NEPA rulemaking process to determine whether or not NRC had confidence to predict that a permanent disposal facility would be available by 2007. The result was the “waste confidence” determination in which NRC predicted a permanent national waste disposal facility would be permitted and operational by a specific date. However, each of NRC’s predictive dates has come to naught, and thirty years later, the high-level radioactive waste at Indian Point is no closer to a final disposal site. During the same time, the “leak tight” spent fuel pools at Indian Point released radionuclides into the environment.

Because of markedly changed circumstances that have occurred during the past year and have been acknowledged by NRC, the Commission should now address the issue of nuclear waste disposal in a different manner than its past decisions. For the first time since the initial promulgation of the waste confidence rule (10 C.F.R. § 51.23(a) & (b)) several key facts have been revealed and accepted, directly or indirectly, by the Commission:

1. As evidenced by the September 2009 Notation Votes, a majority of the Commissioners have acknowledged that they are not able to predict a date certain by which a permanent nuclear waste mined geologic repository or solution will be in place.
2. Thus, spent fuel generated from this point forward, and particularly spent fuel generated during the term of any extended operating license, will likely have to remain at the reactor site indefinitely following shutdown of the reactor.
3. The Commission has not made a generic determination regarding environmental and safety issues presented by indefinite storage of spent fuel at the site of nuclear reactors following shutdown.
4. Recent actions by the Commission, particularly since 2001, have demonstrated that a significant number of substantial environmental and safety issues related to indefinite storage of spent fuel at the site of shutdown nuclear reactors are specific to the particular reactor and site and cannot be addressed on a generic basis.

These facts demonstrate that NRC, in order to comply with its obligations under the National Environmental Policy Act and the Atomic Energy Act, as well as the mandates of the United States Court of Appeals in *Minnesota v. NRC*, 602 F.2d 412 (D.C. Cir. 1979), and *Potomac Alliance v. NRC*, 682 F.2d 1030 (D.C. Cir. 1982), will have to reformulate its approach to the issues raised in the pending waste confidence rule making. In particular, the Commission should now recognize as

result of the prospect of indefinite storage of spent fuel at reactor sites after the plants have been shut down, that there are issues – such as what site-specific measures are required to make spent fuel pools safe from fires, seismic hazards, or leaks – that must be resolved on a plant-by-plant basis and these issues, if properly raised in a license renewal proceeding, are appropriate for resolution by an Atomic Safety and License Board.

In its February 6, 2009 comments on the proposed modifications to the waste confidence findings, the State of New York, along with the State of Vermont and the Commonwealth of Massachusetts, provided extensive evidence that:

1. Past and current events have substantially undermined all the bases upon which the Commission had previously concluded that a permanent, off-site spent fuel waste disposal site would exist by a date certain (*see States' February 6, 2009 Waste Confidence Comments at 11-28*);
2. Recent actions and studies, including a wide-ranging NRC Staff report on spent fuel storage in pools demonstrated that there is no longer any basis to conclude, on a generic basis, that spent fuel can be stored in pools at reactor sites without any substantial adverse environmental or safety concerns arising from routine plant operations and that site-specific analyses would be required to determine, in light of site-specific characteristics, including geology, seismology, demography, spent fuel pool design, configuration of the spent fuel in the pool, and vulnerability to malevolent acts, whether mitigation measures proposed to address these conditions at each site are adequate (*see, e.g., NUREG-1738, SECY-01-0100, Sandia Letter Report, Revision 2 (Nov. 2006), February 2002 Interim Compensatory Measure Order (or "ICM or B.5.b Order"), Alvarez, et al., Reducing the Hazards from Stored Spent Power-Reactor Fuel in the United States, 11 Science and Global Security, 1-51 (2003)*);
3. Past events, including a report by the National Academy of Sciences, demonstrate that intentional acts by malevolent persons or groups pose a credible threat to spent fuel stored at certain reactor sites (*see National Research Council of the National Academies of Science, Safety and Security of Commercial Spent Nuclear Fuel Storage, Public Report (2005)*);
4. Past events, including a report by scientists at the Lamont Doherty Earth Observatory of Columbia University, identified the existence of a new seismic fault line that could increase the probability of an earthquake in the New York metropolitan area (*see Lynn R. Sykes, John G. Armbruster, Won-Young Kim, and Leonardo Seeber, Observations and Tectonic Setting*

of Historic and Instrumentally Located Earthquakes in the Greater New York City-Philadelphia Area, Bulletin of the Seismological Society of America, Vol. 98, No. 4, pp. 1696-1719 (Aug. 2008)). The report also found that the Indian Point facilities and their spent fuel pools sit at the previously-unidentified intersection of seismic fault lines. *Id.* Such seismic features could contribute to accidental or external events, outside the control of the plant operator, which could create a previously-unexamined risk to spent fuel stored at the site.

The States of Connecticut and California made similar points in their rulemaking comments.

These well-documented factual conclusions are, in and of themselves, sufficient basis for the Commission to abandon its proposal to make new generic findings regarding the safety and environmental acceptability of indefinite storage of spent fuel at reactor sites. To these conclusions, the State now adds the following:

1. Subsequent to 2001, the Commission has abandoned any attempt to treat safety and environmental issues associated with spent fuel storage at reactor sites on a generic basis. Rather, the Commission, operating through its regulatory staff, has ordered implementation of site-specific mitigation measures for each reactor to address concerns with spent fuel storage. NRC has acknowledged that there are differences in spent fuel pool designs and capabilities. NRC has also required the implementation of site-specific mitigation measures in response to Congressional directives to NRC to develop site-specific analyses and measures for each spent fuel pool. Moreover, while these mitigation measures have been the subject of extensive discussion between NRC and industry, their details have not been disclosed to the States, and there has not been any opportunity for public input regarding the adequacy of the measures being taken or even whether measures are being taken to address all the potential environmental and safety issues associated with spent fuel storage at reactor sites or whether more effective alternatives are available;

2. Previous indications that the Yucca Mountain waste repository proposal would never come to fruition have now become more certain as the funding for the program has been removed from the proposed federal budget and DOE staff have publicly stated that the project will not go forward. See *Terminations, Reductions, and Savings: Budget of the U.S. Government, Fiscal Year 2010*, p. 68 (quoted in SECY-09-0900); see also U.S. Dep't of Energy, Motion to Stay the Proceeding, filed in *In re U.S. Department of Energy (High-Level Waste Repository)*, Docket No. 63-001 (Feb. 1, 2010); *Terminations, Reductions, and Savings: Budget of the U.S. Government, Fiscal Year 2011*, p. 62.

These new factual conclusions provided substantial additional support for the positions taken in the initial comments filed by the State of New York, the State of Vermont, and the Commonwealth of Massachusetts. Thus, the State again urges the Commission to accept the positions stated in the State's original comments, to abandon: (1) reliance on the now-discredited waste confidence findings and schedule; (2) generic environmental and safety findings regarding spent fuel storage at reactor sites, including the expected duration of that storage; and (3) the generic findings on long-term waste disposal imbedded in Table S-3. Instead, the State urges NRC to require and perform a site-specific evaluation of environmental impacts of spent fuel pool storage at each reactor location, taking into account environmental factors including surrounding population density, water resources, seismicity, subsurface geology, and topography along with the design, construction, and operating experience of the spent fuel pool in question and the layout of the fuel assemblies in that pool.

These new factual conclusions also provide compelling evidence to support, at a minimum, modification of the now obsolete and superseded 10 C.F.R. § 51.23(a) & (b) to allow for consideration in relicensing proceedings, such as the ongoing proceeding for the Indian Point power reactors, of any properly presented environmental and safety contention focused on the adequacy of mitigation measures taken or to be taken at that site to address the safety and environmental impacts flowing from the 20 additional years of spent fuel storage at the reactor site, the increased volume of spent fuel created during those 20 years, and the indefinite storage at that reactor site of all the waste generated by that reactor.

As currently written, the Commission's regulations segment the issues of the environmental and safety implications of spent fuel storage at reactor sites into several separate "bins" or proceedings, with varying levels of public participation (or exclusion). First, issues related to storage of spent fuel at the reactor during power

reactor operations may be considered during an operating license proceeding under 10 C.F.R. § 51.23(c). Second, issues related to spent fuel storage at reactor sites for the first 30 years following the end of reactor operations at the site are foreclosed under 10 C.F.R. § 51.23(b). Third, issues related to spent fuel storage at reactor sites for any period beyond 30 years following the end of reactor operations at the site, including indefinite storage at the site, is not addressed in any regulation because it has been assumed, erroneously, that all spent fuel would be gone from the reactor site within 30 years after operations cease. Not only is this assumption no longer valid for plants currently seeking license extensions, it is invalid for those plants that were shutdown decades ago and at which sites no reactor operations continue.

There is not, and cannot be, a rational explanation for the regulatory distinctions that provide different levels of public participation (in some cases, no participation is allowed) for consideration of the environmental and safety issues related to spent fuel storage depending on whether the storage takes place during the 20 years of extended reactor operation, the 30 years after cessation of reactor operations, or the infinite number of years beyond that 30-year “out of bounds” period. Equally inexplicable is the distinction between spent fuel stored at the site of a reactor which has ceased operations but where other reactors continue to operate (such as Indian Point Unit 1, whose operations ceased in 1974 and whose spent fuel remained in the Unit 1 spent fuel pool until December 2008 when long-running leaks of radionuclides from that pool forced its closure) and sites where no further reactor operations are continuing (such as: Zion Units 1 & 2 whose operations ceased in 1998 and whose spent fuel remains in its spent fuel storage pools; Rancho Seco whose operations ceased in 1989 and whose spent fuel has been transferred to an on-site dry cask storage facility; and Humboldt Bay whose operations ceased in 1976 and whose spent fuel has remained in a spent fuel pool more than 30 years after reactor operations ceased and is now proposing a unique form of dry cask storage to address seismic concerns at the site). *See generally* <http://www.nrc.gov/info-finder/decommissioning/>; *see also* Hydrogeologic Site Investigation Report for the Indian Point Energy Center, GZA GeoEnvironmental, Inc., Figures 9.4, 9.3, 9.2, 9.1 (Jan. 7, 2008) (depicting subsurface radionuclide plumes flowing from Indian Point’s spent fuel pools).

It is apparent that the central issues which need to be addressed at the time of consideration of authorization of the right to create spent fuel, are whether measures are being taken, or will be taken, to (1) provide adequate protection for public health and safety and (2) eliminate the environmental impact from the likely indefinite storage of the spent fuel at the reactor site. As discussed in more detail below and in the February 6, 2009 submittal, there are numerous issues which are specific to certain sites and certain nuclear facilities that make it impossible to

resolve these issues on a generic basis for all reactors and all sites.

The Commission should create a new paradigm for addressing the issue of indefinite storage of spent fuel at Indian Point and other sites. It should acknowledge to host communities and States that NRC accepts the proposition that radioactive waste will remain at reactor sites after reactors cease commercial operations. It should adopt a regulatory scheme that allows the site and facility-specific issues related to indefinite storage of spent fuel to be resolved in a licensing proceeding at the time of deciding whether to authorize the creation of spent fuel. The time has come for the Commission to provide a meaningful role for stakeholders that have been previously excluded from the process – the States, their localities, and their citizens.

II. Some Spent Fuel Storage Safety and Environmental Issues Are Site- and Facility-Specific And Cannot Be Generically Resolved

Since 2001 NRC, based on guidance from various reports and based on its own considerations, has begun the process to implement site-specific measures to mitigate the consequences of accidental or intentional events that impact spent fuel storage at nuclear reactor sites. The reports demonstrate clearly that those doing the analysis not only saw substantial safety and environmental issues associated with spent fuel storage at reactor sites but also that many of the measures needed to address those issues were inherently site-specific. The following NRC or federal documents confirm that such concerns implicate site-specific analyses:

1. NUREG-1738, Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants (January 2001) (“Fuel assembly geometry and rack configuration are plant specific” * * * “Heat removal is very sensitive to . . . fuel assembly geometry . . . [and] rack configuration . . . [and is] subject to unpredictable changes after an earthquake or cask drop that drains the pool * * * [I]t was not feasible, without numerous constraints, to establish a generic decay heat level (and therefore a decay time) beyond which a zirconium fire is physically impossible * * * [S]ince a non-negligible decay heat source lasts many years and since configurations ensuring sufficient air flow for cooling cannot be assured, the possibility of reaching the zirconium ignition temperature cannot be precluded on a generic basis”);

2. SECY-01-0100, *Policy Issue Related to Safeguards, Insurance, and Emergency Preparedness Regulations at Decommissioning Nuclear Power Plants Storing Fuel in Spent Fuel Pools* (WITS 200000126) and attachments (June 2001) (discussing NUREG-1738);
3. National Academy of Sciences Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage, *Safety and Security of Commercial Spent Nuclear Fuel Storage: Public Report* (2005)(recognizing that there are a “variety of designs” of spent fuel pools and “The potential vulnerabilities of spent fuel pools to terrorist attacks are plant-design specific. Therefore, specific vulnerabilities can be understood only by examining the characteristics of spent fuel storage at each plant”); and
4. Sandia National Laboratories, Letter Report, Rev. 2, *Mitigation of Spent Fuel Loss of Coolant Inventory Accident and Extension of Reference Plant Analyses to Other Spent Fuel Pools* (November 2006) (identifying site-specific mitigation options and alternatives and confirming that many plant-specific variables are at play such as the density or dispersion of the fuel rods in the pool, the decay heat level, fuel burn up rate, power production rate, time since discharge, assembly inlet temperature, convective and conductive heat removal rates, and heat transfer rate to and from adjacent assemblies).

In an effort to implement the recommendations of these and other reports and to address the concerns raised, NRC Staff proceeded to develop a series of mitigation measures that were tailored to each reactor site. Staff described these steps in a Safety Evaluation Report appended to a letter sent to the licensee for Indian Point Units 2 & 3 (Entergy), on July 7, 2007, in which it gave approval to site-specific mitigation measures proposed to be taken, or already taken, by Entergy at the Indian Point site to address concerns raised by NRC Staff:

The February 25, 2002, ICM Order that imposed interim compensatory measures on power reactor licensees required in Section B.5.b, Mitigative Measures, the development of “specific guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities using existing or readily

available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with loss of large areas of plant due to explosions or fire.” These actions were to be implemented by the end of August 2002. Inspections of the implementation of the Section B.5.b requirements were conducted in 2002 and 2003 (Temporary Instruction (TI) 2515/148). *The inspections identified large variabilities in scope and depth of the enhancements made by licensees.* As a result, the NRC determined that additional guidance and clarification was needed for nuclear power plant licensees.

Section B.5.b of the ICM Order required licensees to *develop specific guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities* using existing or readily-available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with loss of large areas of the plant due to explosions or fire. Determination of the specific strategies required to satisfy the Order, elaborated on in the Phase 1 guidance document, was termed Phase 1.

In order to assure adequate protection of public health and safety and common defense and security, the NRC determined that differences in plant design and configuration warranted independent assessments to verify that the likelihood of damage to the reactor core, containment, and spent fuel pools and the release of radioactivity is low at each nuclear power plant. The Commission directed the NRC staff to conduct site-specific security and safety assessments to further identify enhanced mitigation capabilities. Site-specific assessments of spent fuel pools was deemed Phase 2 and site-specific assessments of reactor core and containments was deemed Phase 3.

During 2005, the NRC staff performed inspections (TI 2515/164) to determine licensees' compliance with Section B.5.b of the ICM Order (Phase 1). Subsequent meetings were held with licensees to resolve identified open issues.

Confirmatory B.5.b Phase 1 inspections (TI 2515/168) were conducted during the period of June to December 2006. *The NRC staff conducted site visits as part of the Phase 2 assessments during 2005. In 2006, the NRC staff observed licensee Phase 3 studies and conducted independent Phase 3 assessments.*

The industry proposed high level functional mitigating strategies for a spectrum of potential scenarios involving spent fuel pools. In a letter to all Holders of Licenses for Operating Power Reactors dated June 21, 2006 (ADAMS Accession No. ML061670146), the NRC accepted the Phase 2 proposal *pending review of site-specific details of its application and implementation.*

The implementing details of mitigation strategies included in the proposal, including those that utilize beyond-readily available resources, will be treated as commitments, which will become part of the licensing basis of the plant. Additional strategies identified during site-specific assessments which licensees deem acceptable and valuable to promote diversification and survivability, will be incorporated into licensees' Severe Accident Management Guidelines, Extreme Damage Mitigation Guidelines, or appended to other site implementation guidance. *To verify compliance, the NRC staff evaluated the site-specific implementation and documentation of the proposed Phases 2 and 3 mitigating strategies for each U.S. nuclear power plant.*

As part of the NRC staff's Phase 2 assessment, it was determined that *mitigating strategies for the Indian Point Nuclear Generating Unit No. 2 spent fuel were not required due to being screened out.* Therefore, the license condition for Unit 2 does not include Item b.7, "Spent fuel pool mitigation measures."

Safety Evaluation by The Office of Nuclear Reactor Regulation Related to Order No. Ea-02-026 Entergy Nuclear Operations, Inc. Indian Point Nuclear Generating Unit Nos. 2 and 3 Docket Nos. 50-247 and 50-286 (July 7, 2007) at pp. 1-4 (emphasis added) appended to a letter from NRC Staff to Entergy of the same date (ML071920020). It is indisputable that the measures proposed and taken were

specific to individual sites, like Indian Point, even though the details of the actions taken have not been released and the public has not been allowed to provide comments on, much less raise contentions in a licensing hearing to challenge, the adequacy of measures adopted by NRC Staff.¹

There is considerable evidence from well-respected experts that substantial mitigation measures are required to address issues raised by the presence of spent fuel at nuclear reactor sites for extended periods of time:

Dr. Gordon Thompson. Already part of the record in this rulemaking is the Report by Dr. Gordon Thompson entitled *Environmental Impacts of Storing Spent Nuclear Fuel and High-Level Waste from Commercial Nuclear Reactors: A Critique of NRC's Waste Confidence Decision and Environmental Impact Determination* (Feb. 6, 2009) along with Dr. Thompson's CV establishing his distinguished qualifications in the field of spent fuel storage safety and environmental concerns. Dr. Thompson provides examples of site-specific mitigation measures that are needed to fully address the environmental and safety risks created by long term storage of spent nuclear fuel at reactor sites. *See, e.g.*, Report at Table 8-2 identifying a number of mitigation measures that would have to be configured and implemented on a site-by-site basis to reduce the risk of spent fuel fires.²

Dr. Richard T. Lahey. In addition, the State calls the Commissioners' attention to the Declaration prepared by Dr. Richard T. Lahey, Jr. in support of the State of New York's Notice of Intention to Participate and Petition to Intervene in *In re: License Renewal Application Submitted by Entergy Nuclear Operations, Inc.* (Indian Point Units 2 & 3) Docket Nos. 50-247-LR and 50-286-LR dated November

¹ NRC Staff developed these new mitigation measures in close cooperation with a trade group, the Nuclear Energy Institute (NEI), whose website describes its mission as the promotion of nuclear power (www.NEI.org).

² The Commission has also acknowledged, in responding to a Congressional directive to address the threat of air-based sabotage directed at a nuclear facility, that the measures being proposed are directed at the individual sites and involve measures that are to be taken *after* the attack has occurred, not as a means to prevent the attack. As a spokesman for NRC clarified to Congress, mitigation measures to address terrorist threats "will be at the back end once the attack occurs." Homeland Security: Monitoring Nuclear Power Plant Security: Hearing Before the Subcomm. on Natl. Security, Emerging Threats and Int'l Relations, House Comm. on Govt Reform, 108th Cong. 61 (2004) (testimony of Luis Reyes, Executive Dir. of Operations, NRC), *available at*: <http://frwebgate.access.gpo.gov/cgi-bin/getdo~.cgi?dbname=10-8house-hearings&docid=f:98358.pdf>.

30, 2007 (“Lahey Declaration”). The Lahey Declaration is contained within NRC ADAMS Accession No. ML073400193.

Dr. Lahey is the *Edward E. Hood Professor Emeritus of Engineering* at Rensselaer Polytechnic Institute (RPI). He has served as the Dean of Engineering and Chairman of the Department of Nuclear Engineering & Science at RPI. He belongs to and has actively participated in a number of professional organizations including the American Nuclear Society, the American Society of Mechanical Engineers, the American Institute of Chemical Engineering and the American Society of Engineering Educators. He was the editor of the *Journal of Nuclear Engineering & Design*. He has served on numerous panels and committees for the NRC, Idaho National Engineering Laboratory, Oak Ridge National Laboratory, the Electric Power Research Institute and the National Research Council of the National Academies. Dr. Lahey was a member of the Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage which co-authored the National Research Council Report *Safety and Security of Commercial Spent Nuclear Fuel Storage* (Public Report 2006).³ See Lahey Declaration at ¶ 33.

In his November 2007 Declaration, Dr. Lahey identifies site-specific mitigation measures, recommended in the *Safety and Security of Commercial Spent Nuclear Fuel Storage* Report that should be, but have not been, adopted for the Indian Point spent fuel pools to mitigate against the consequences of an external attack on the spent fuel pools. See Lahey Declaration at ¶ 36. Dr. Lahey also notes the existence of unique characteristics of the Indian Point plant configuration and location that require special measures to mitigate against the consequences of an external attack on the Indian Point spent fuel pools. *Id.*, at ¶¶ 32, 34, 35, 37 & 38.

Dr. Stephen Sheppard. The State also calls the Commissioners’ attention to the declarations and reports prepared by Dr. Stephen Sheppard. Dr. Sheppard is a Professor of Economics at Williams College and conducts research on environmental and natural resources economics. Dr. Sheppard’s statements are contained within NRC ADAMS Accession Nos. ML073400193 and ML090690303.

Dr. Sheppard has identified site-specific environmental issues which are relevant to the indefinite storage of spent fuel at reactor sites. In reports prepared by him in support of the New York State Notice of Intention to Participate and Petition to Intervene in *In re: License Renewal Application Submitted by Entergy Nuclear Operations, Inc.* (Indian Point Units 2 & 3) Docket Nos. 50-247-LR and 50-286-LR dated November 30, 2007 and New York State’s Contentions Concerning NRC Staff’s Draft Supplemental Environmental Impact Statement dated February

³ Dr. Lahey’s full curriculum vitae is available at <http://www.rpi.edu/~lahey/>.

27, 2009, Dr. Sheppard identified substantial impacts on the land use and land values surrounding the Indian Point site in the event that license renewal is not allowed and the plant is promptly decommissioned and the spent fuel removed to a waste disposal site by 2025 (land values will increase) and in the event that spent fuel is stored indefinitely at the site (land values will remain depressed for the indefinite future).

The fact that addressing the issue of the integrity of spent fuel pools from external events, facility accidents, or external malevolent acts requires site-specific mitigation measures and evaluations should be no surprise. As early as 1983 then-Commissioner Victor Gilinsky filed a separate statement of dissent when the Commission proposed adoption of what is now the Waste Confidence Rule in which he observed “[w]hile I agree that there is no obstacle in principle to extended on-site storage, I think it is clear that each power reactor site will have to be examined in detail.” 48 Fed. Reg. 22730, 22733 (May 20, 1983). The Commission itself recognized at that time the site-specific nature of the measures needed to deal with spent fuel storage following reactor shutdown by proposing, what is now 10 C.F.R. § 50.54(bb), a provision that requires each licensee to submit, no later than 5 years before expiration of the operating license, a site-specific plan for how the spent fuel will be managed on the site following reactor shutdown and until such time as the fuel is sent for reprocessing or off-site disposal. *Id.* at 22732.

The State’s comments identify a group of additional site-specific factors that will impact on the nature of the risks to which stored spent fuel is subjected and the mitigation measures needed to address those risks including site-specific seismic dangers such as those which are now requiring the Humboldt Bay reactor to implement special procedures for dry cask storage.

III. Recent Events Confirm that No Reasonable Assurance Now Exists to Conclude That A Permanent Waste Disposal Facility Will Be Available By Any Specific Future Date

The majority of Commissioners have now recognized that certain underpinnings supporting the waste confidence findings no longer exist – namely, when a central disposal repository will accept spent fuel or even if such a repository will ever be constructed. As fully developed in the States’ initial comments, evidence has been growing for years that the Commission’s efforts to set a date by which time a permanent waste disposal facility will be available to receive the wastes from nuclear power plants have been a failure. NRC has missed every deadline it has predicted regarding the achievement of that goal by a date certain. Meanwhile, at Indian Point, high-level radioactive spent fuel remains on site and it has leaked into the soil and bedrock under the facilities and the Hudson River.

On June 15, 2009, NRC General Counsel Burns stated that:

Although the licensing proceeding for the Yucca Mountain repository is ongoing, DOE and the Administration have made it clear that they do not support construction of Yucca Mountain. The President's 2010 budget proposal states that the "Administration proposes to eliminate the Yucca Mountain repository program." *Terminations, Reductions, and Savings: Budget of the U.S. Government, Fiscal Year 2010*, p. 68.

SECY 09-0900, Final Update of the Commission's Waste Confidence Decision (June 15, 2009) at 3. General Counsel Burns also suggested the Commission might defer action on the draft final update and draft final rule to incorporate "more precise information on near-term federal actions relevant to the development of the federal [High Level Waste] disposal program." *Id.* at 4.

The September 2009 Notation Votes reflect that the Commissioners rejected the General Counsel's recommendation to approve an amended Waste Confidence Rule that included a new date certain for a permanent repository.⁴ Commissioner Svinicki separated the issue of whether a technologically feasible permanent waste disposal solution exists and whether, if it does exist, it can be reasonably expected to be available in the future, from the entirely different question of whether a date by which that solution will be implemented can be predicted. *See* Commissioner Svinicki Notation Vote at pp. 1-2. The latter she considers to be impossible in the current environment, concluding that "this is a particularly difficult time to be in the prediction business." *Id.* at 2.

In his Notation Vote, Commissioner Klein, like Commissioner Svinicki, recognized that there will not be a waste disposal facility at Yucca Mountain -- the administration has announced that the Yucca project will be cancelled -- and recognizes that the current record available to the Commission is insufficient to determine a specific date by which a permanent facility will be available. *See* Commissioner Klein Notation Vote at 1 (recognizing "the Administration's proposed budget plan to eliminate the Yucca Mountain project"). Commissioner Klein

⁴ The Notation Vote Response Sheets reflect the views of the three sitting commissioners: Chairman Jaczko (dated Sept. 17, 2009), Commissioner Klein (dated September 16, 2009), and Commissioner Svinicki (dated Sept. 24, 2009). The Notation Votes are available at <http://www.nrc.gov/reading-rm/doc-collections/commission/cvr/2009/>.

emphasizes that new waste disposal options, other than a mined repository, are now possible and urges the Commission to broaden any statement about the future to include more than just mined repositories (*id.* at 2), thus making prediction of when a permanent repository will be available even less possible.

Chairman Jaczko's Notation Vote acknowledged the termination of the Yucca project referenced in the Staff's SECY paper. Based on his view of the administrative record before the Commission in the rulemaking proceeding, he proposed additional revisions that deleted reliance on the existence of "one mined geologic repository" and "repository" in Finding 2 and Finding 3. While he suggested that some high-level waste disposal "capacity" might be available in 50 years or perhaps 60 years beyond the licensed life of a reactor, he also stated that he would support extending the public comment period to solicit additional public input on this issue.

Thus, the formal Notation Votes reveal that a majority of the current Commissioners do not now have a basis to make a finding of "reasonable assurance" that a mined repository for the permanent disposal of high-level radioactive waste will be available to receive waste from Indian Point or other reactors at a specific future date. Nonetheless, like a ghost ship long since abandoned by its crew, the Waste Confidence Rule sails on, without heed to the interests of States, the right to public participation and review, concerns of communities being told to host the waste, and the credibility of the NRC licensing process.

Black's Law Dictionary describes a "legal fiction" as an "assumption that something is true even though it may be untrue," or "a device by which a legal rule or institution is diverted from its original purpose to accomplish indirectly some other object."⁵ For the last 45 years, NRC has sought to preclude inquiry into the consequences of continued on-site storage of spent nuclear fuel at Indian Point after cessation of reactor operations because it has assumed the waste would be removed from the site. The passage of time has demonstrated that the initial assumption, which then became promulgated regulatory confidence in 1984 with the appearance of § 51.23, was mistaken. Early on, West Valley did not re-process Indian Point's waste. Nor did a mined geologic repository accept Indian Point's waste in 2007 (the 1984 assumption). And now it is clear that a mined geologic repository will not take Indian Point's waste by 2025 (the 1990 and 1999 assumption). Indian Point's experience over the last 48 years shows that the retention of obsolete, discredited, and superseded § 51.23 continues a legal fiction.

⁵ Black's Law Dictionary 913 (8th ed.2004); *see also* Merriam-Webster's Collegiate Dictionary 465 (11th ed.2006) (defining "fiction," in sense of "legal fiction" as: "an assumption of a possibility as a fact irrespective of the question of its truth").

Whatever the basis for the assertion in the past, the declaration today that all spent fuel will be removed from reactors within 30 years after operations cease and that, on a generic basis, it can be determined that there will be no significant environmental or safety issues as a result of spent fuel storage on site during that 30-year period is a fiction. It is a fiction that is perpetuated by the continued presence of the obsolete and superseded 10 C.F.R. § 51.23 in its current form. That language has been used by NRC Staff and licensees as a basis to prohibit public participation and meaningful dialogue regarding the adequacy of site-specific mitigation measures being proposed and/or taken at nuclear reactor facilities to address environmental and safety concerns associated with the on-site storage of spent fuel. Various states, local governments, and citizens groups sought to raise these concerns in the Indian Point license renewal proceeding. In response to these proffered contentions, NRC Staff opposed any consideration of the safety and environmental problems associated with storage of spent fuel at Indian Point by pointing to language in 10 C.F.R. §§ 51.23(a) and (b) that asserts that the wastes will be gone from those sites within 30 years after operations cease and because NRC previously decreed that during those 30 years there can be no significant safety or environmental problems.

As the previous comments make clear, the measures now being proposed and implemented to address the issues of safety and environmental concerns associated with spent fuel storage at reactor sites are anything but generic. In addition, although the actual measures being taken to mitigate the consequences of damage to the spent fuel storage facility have not been revealed, it is evident from the previously cited Sandia Report and from the statements by Dr. Lahey and Dr. Thompson that alternative measures could to be taken at each reactor site to mitigate spent fuel safety and environmental impacts. However, despite the existence of such alternative site-specific mitigation measures, NRC continues to resist allowing these issues to be fully aired in a context in which the active participants, with full access to the decision-making process, include anyone other than NRC Staff, nuclear reactor licensees, and their trade association, the Nuclear Energy Institute.⁶

⁶ While a number of the mitigation measures may be security sensitive (there is no evidence that all the mitigation measures are security sensitive) that is no barrier to public participation on, and hearing board evaluation of, the adequacy those measures. The provisions of 10 C.F.R. Part 2, Subpart I provide the procedures to be used to permit consideration of such matters in a licensing hearing. The purpose of Subpart I is "to provide such procedures in proceedings subject to this part as will effectively safeguard and prevent disclosure of Restricted Data and National Security Information to unauthorized persons, with minimum

IV. An Alternative Approach: Permitting States to Raise Site-Specific Concerns Is Consistent With and Required By NEPA and CEQ Regulations.

The State's previous comments present the legal basis for its conclusion that the Commission by continuing to prevent public participation on environmental and safety issues associated with indefinite storage of spent fuel at reactor sites is in violation of the NEPA, AEA, and CEQ regulations. As the previous discussion and the States' prior comments make clear, there are a number of issues that are not appropriate for generic resolution and must be resolved on a site-by-site basis. Of course, even those issues, may not end up in a licensing proceeding since the public participant will be required to overcome the considerable barriers imposed by 10 C.F.R. Part 2 in order to present an admissible contention. Nonetheless, some issues will have to be reviewed in Part 2 proceedings and/or facility-specific environmental impact statements and, rather than run from that consequence, the Commission should embrace it. There is considerable evidence that public participation in a licensing proceeding improves the final outcome on both environmental and safety issues.⁷ For public participants there is no conflicting economic self-interest that may compromise an effort to provide full and adequate

impairment of procedural rights." 10 C.F.R. § 2.900. States and their governmental officials should readily qualify under this provision. Given that State and local governments may have to deal with the consequences of a spent fuel pool fire or other incidents involving off-site releases, and given that many States are part of NRC's "Agreement State" program, they should be allowed to request a hearing on this important issue pursuant to Part 2.

⁷ NRC Hearing Panels, which are composed of impartial administrative judges who are closely involved with the AEA hearing process, have confirmed the important role played by public participants. *See, e.g., In the Matter of Gulf States Utilities Company* (River Bend Station, Units 1 and 2), ALAB-183, Docket Nos. 50-458 and 50-459, 7 A.E.C. 222, 227-28 (Mar. 12, 1974); *In the Matter of Shaw Areva Mox Services* (Mixed Oxide Fuel Fabrication Facility), LB-08-11, Docket No. 70-3098-MLA, at 49 (June 27, 2008) (Farrar, J., concurring). NRC Commissioners have also recognized the useful role the public can play in NRC proceedings. *See, e.g., Dale E. Klein, Chairman, U.S. Nuclear Regulatory Comm'n, Presentation to the Convention on Nuclear Safety: The U.S. National Report*, at Slides 3 and 11 (Apr. 15, 2008), <http://www.nrc.gov/reading-rm/doc-collections/commission/>; Gregory B. Jaczko, Comm'r, U.S. Nuclear Regulatory Comm'n, Remarks to the OECD's Nuclear Energy Agency Workshop on the Transparency of Nuclear Regulatory Activities: Openness and Transparency-The Road to Public Confidence (May 22, 2007), <http://www.nrc.gov/readingrm/doc-collections/commission/>.

safety and environmental protection and develop a comprehensive analysis of the environmental impacts and their alternatives. Such a review of site-specific impacts and alternatives is entirely consistent with, and indeed required by, NEPA, AEA, and CEQ regulations.

V. Conclusion

The time has come for the Commission to formally abandon the outdated, discredited, and superseded portions of the Waste Confidence Rule and to reestablish the public's right to participate in those site-specific safety and environmental issues related to the indefinite storage of spent fuel at reactor sites in their neighborhoods. The promise that nuclear waste would be gone when the reactors shut down or shortly thereafter, or even by a time certain after shutdown, cannot be kept. That realization has profound implications for the safety and environmental protection of the community where the nuclear reactors are located. The Commission should immediately cancel the portions of 10 C.F.R. § 51.23 that prohibit consideration of properly presented site-specific contentions related to the adequacy of measures to mitigate the safety and environmental consequences of indefinite storage of spent fuel at reactor sites following shutdown of the reactors. The Commission's actions should apply to pending proceedings, such as the Indian Point license renewal proceeding, where parties sought to raise concerns about indefinite spent fuel storage at the reactor site. The parties should be given a reasonable time, not less than 60 days, to formulate new proposed contentions that are site-specific and address the environmental and safety consequences of indefinite storage of spent fuel at the site and the adequacy of mitigation measures to address those consequences.

Dated: February 9, 2010

Respectfully submitted

s/

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Rulemaking Comments

From: John Sipos [John.Sipos@ag.ny.gov]
Sent: Tuesday, February 09, 2010 6:22 PM
To: Rulemaking Comments
Cc: Janice Dean
Subject: NYS supp comments re RIN 3150-AI47, 2008-0482, 2008-0404
Attachments: 2010 02 09 NYS supp comments re RIN 3150-AI47, 2008-0482, 0404.pdf

Dear Secretary Vietti-Cook and Rulemakings Staff:

Attach please find supplemental comments by the State of New York concerning the ongoing referenced rulemakings. Please contact me if you have any questions or encounter difficulty with this e-filing transmission.

Respectfully submitted,

John Sipos
State of New York
Assistant Attorney General

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