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Ms. Cindy Bladey, Chief, Rules,
Announcements, and Directives Branch (RADB),
Office of Administration,
Mail Stop: TWB-05-B01M,
U.S. Nuclear Regulatory Commission,
Washington, DC 20555-0001.
Email: Carol.Gallagher@nrc.gov.
Fax: RADB at 301-492-3446

10/25/2012
77FR 65137

133

RE: Docket ID NRC-2012-0246
Scoping Comments for Environmental Impact Statement (EIS);
Consideration of Environmental Impacts of Temporary Storage of Spent
Fuel After Cessation of Reactor Operation;
Pursuant to Environmental Scoping process as defined in 10 CFR 51.29.

Dear Ms. Bladey and NRC Commissioners:

I, Susan H. Shapiro, Esq. submit the following scoping comments as a person, who represents the interest of Indian Point Safe Energy Coalition (IPSEC) and the Indian Point reactor community with business and residences within 50 miles of Indian Point. I participated in the December 5th, teleconference I have requested an opportunity to participate in the scoping process.

We are respectfully requesting that hearings regarding the Waste Confidence EIS be scheduled with adequate notice within the Indian Point Reactor community, as it is the most densely populated reactor community in the country, with over 20 million people within the 50 mile radius. It should be noted that the Blue Ribbon Commission on Nuclear Waste failed to hold hearings in the New York metropolitan region.

Background

On June 8, 2012, the U.S. Court of Appeals for the DC Circuit found that some aspects of the 2010 Decision did not satisfy the NRC's NEPA obligations and vacated the

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Decision and Rule. [*New York v. NRC*, 681 F.3d 471 (D.C. Cir. 2012)]. In vacating the 2010 decision and rule, the Court identified three specific deficiencies in the analysis:

1. Related to the Commission's conclusion that permanent disposal will be available "when necessary," the Court held that the Commission did not evaluate the environmental effects of failing to secure permanent disposal;
2. Related to the storage of spent fuel on site at nuclear plants for 60 years after the expiration of a plant's operating license, the Court concluded that the Commission failed to properly examine the risk of spent fuel pool leaks in a forward-looking fashion;
3. Related to the post-licensed-life storage of spent fuel, the Court concluded that the Commission failed to properly examine the consequences of spent fuel pool fires.

In a rulemaking, the Commission must consider the effect of its actions on the environment in accordance with NEPA. Section 102(1) of NEPA requires that policies, regulations, and public laws of the United States be interpreted and administered in accordance with the policies set forth in NEPA. It is the intent of NEPA to have Federal agencies consider environmental issues in their decision-making processes.

NOTICE IS DEFECTIVE:

The October 26, 2012 Federal Register Notice announcing the public comment opportunity on scoping in the lead up to the court-ordered EIS on Nuclear Waste Confidence Decision and Rule is legally deficient. It does not clearly describe the proposed federal actions, nor the preferred alternatives.

Due to fatal flaws, the Federal Register Notice must be withdrawn, corrected and re-issued. The current proceedings must be suspended, and the time allocated for public comments must be re-commenced after a proper, legally adequate Federal Register Notice is published.

One single in-person hearing on November 14th in Rockville, MD, and a handful of webinars, with only one in which public comments could be made, is clearly inadequate for this nationally important environmental issue. At a minimum public comment meetings should be held in every nuclear power reactor community, with supplemental remote webinar/teleconference participation options for those unable to attend in person.

At a bare minimum a public in-person comment hearing must be held in within the Indian Point reactor area where 8% of the United States population resides; the property values exceed \$8.5 trillion; New York City is within 25 miles; two intersecting active seismic faults are nearly under the reactors; West Point Military Academy and a portion of the U.S. mint are within 7 miles, and where 1800 tons of nuclear waste is currently being stored in densely packed, leaking spent fuel

pools.

In order to comply with the Court order NRC should conduct public hearings, with adequate notice, of any and all hearings related to scoping and consideration of the EIS in **all reactor communities nationally** where high level nuclear waste will be stored.

Additionally the Notice provided by the NRC is defective in the following manners:

A. By pre-limiting the scope, as set forth in the Notice paragraph c.) to “not involve analysis of site-specific issues” as “ peripheral or [] not significant” the NRC fails to meet the three specific deficiencies identified by the Court.

1) Failure to include in scope **site specific issues** to secure permanent disposal which have significantly different environmental impacts and costs based on site environmental issues, including **site specific current and projected population densities**, does not meet the specific deficiencies identified by the Court.

2) Failure to include in scope **site specific spent fuel pool leaks**, which have considerably different environmental and public health impacts depending on the current condition of the spent fuel pools, including **known or undetected spent fuel leaks; site specific conditions, such as geology and seismology; public drinking water supplies; and monitoring**; does not meet the specific deficiencies identified by the Court..

3) Failure to include in scope **site specific consequences of spent fuel fires** are considerably unique depending on the fire protection exemptions granted per each reactor site, the **proximity of gas pipeline or other flammable infrastructure, and the evacuation time estimates related to current and projected population densities**, does not meet the specific deficiencies identified by the Court.

B. As set forth in the Notice paragraph f.) the relationship between the timing of the preparation of the environmental analyses and the Commission's tentative planning and decision-making schedule;

Since the Commission published that it has pre-determined that the EIS must be completed by 2014, it fails to meaningful consider the relations of the decision-making process before even obtaining Scoping comments or preparing a final Scoping document, clearly **pre-determined time restrictions for review limit the necessary decision-making process required by the Court.**

Currently the United States has had 55 years commercial nuclear power waste production. It is now 43 years after National Environmental Protection Act was enacted and 38 years since the NRC was authorized. Yet the NRC is affording the public only 70 days to submit written comment during the 2012 holiday season and in the aftermath of

Hurricane Sandy. on the environmental impacts of a million year of hazards related to nuclear waster storage.

The NRC must stop rushing the EIS and allow for the necessary time to adequately prepare and review a comprehensive EIS. **Last year the NRC staff estimated it would take 7 years to do a quality job on the EIS**, for the NRC to try to rush that into a 2 year window will lead to a defective and incomplete EIS, which fails to meet the Court ordered review. What is the rush, when the waste to be stored will be highly toxic for 100,000 of years?

To provide an adequate EIS are required by the Court, the NRC should **hold public comment periods in every atomic reactor community** due to the enormity of the environmental impacts and consequences of interim/long term nuclear waste storage on reactor sites nationally.

The time frame for making public comment (October 26, 2012 to January 2, 2013) is unacceptably short. A six-month time period for making public comments is more reasonable. **The public comment deadline should be significantly extended.**

C. As set forth in the Notice paragraph g.) "Identify any cooperating agencies and, as appropriate, allocate assignments for preparation and schedules for completing the EIS to the NRC and any cooperating agencies. No cooperating agencies are involved at this time."

All States must be included as cooperating and involved agencies as a change in the Waster Confidence Rule to allow for interim or long term, 60+ year storage of high level nuclear waste which was not contemplated or approved by the States in the original approvals granted by the States for use of state lands and waters. Interim or long term dry cask storage of nuclear waste is essentially a new use of the State lands and creates much greater and continuing threats to the surrounding reactors communities.

Due to the lack of a Waste Confidence rule the federal government's original agreement to take ownership and responsibility of nuclear waste is being amended and in consideration of State's rights established in the Constitution all the States which will be hosting un-contemplated long term waste storage facilities on reactor sites must be included as involved agencies.

At a minimum the any additional storage period is a new use of land which requires a re-assessment and re-approval by State authorities, to comply with due process requirements.

Therefore it is imperative that the NRC be required to include all States as involved and cooperating agencies, upon whose approval of final determinations and findings must be obtained to satisfy the requirements set forth by the Court.

SUBSTANTIVE ISSUES:

The U.S. Government Accountability Office describes spent power reactor fuel as, "one of the most hazardous materials made by man" with good reason.

The Blue Ribbon Commission on Nuclear Waste acknowledged that by 2010 65,000 tons of high level nuclear waste had been produced and that by 2050, at the current rate of production, there would be 133,000 tons.

The Court held that the NRC's unfounded belief that "permanent disposal will be available "when necessary," cannot be sustained, has not apparently been recognized by the NRC staff or the Nuclear industry. On the December 5th teleconference call the the NRC staff representative stated that they still had confidence that there will be a repository. The Court held that the Commission cannot construct a waste confidence decision based on this and must fully evaluate the environmental effects of failing to secure permanent disposal even if such storage is "temporary", interim or long term. The EIS must provide the necessary analysis and information need for the agency to "take a hard look" and make an elaborate determination, which the Court may ultimately review for its adequacy. If the NRC overriding untenable position is that a repository will exist, even though no repository exists or has been approved even after years of study and expenditure, the EIS to fail judicial review.

In order to prepare an adequate EIS and to the take a "hard look" and make an elaborate evaluation, the NRC staff must change this culture whose predetermined outcome has failed to be proved. The Scoping of the EIS must be comprehensive to overcome the NRC's presumptions that a permanent disposal will be available when necessary, but which to date does not exists for technical reasons.

Therefore, the following issues and considered must be included in the Scope adequately indentify and consider significant issues to be analyzed in depth in the environmental impact statement, including potential interim and long term spent fuel storage scenarios for evaluation, such as availability of a delayed permanent repository towards the end of the century;

Site Specific Issues:

Scoping must include site specific alternative and mitigations, which must include severe accident mitigations & alternatives pursuant to 10 CFR 51.23, which currently only pertains to reactor issues not spent fuel.

1. **Site specific capacities of spent fuel pools and dry cask storage capacities, currently and in the future, must be fully evaluated and considered in the EIS; i.e. at Indian Point there are no plans to expand the dry cask storage capacities and the spent fuel pools are already filled.**

Nearly 75% of spent fuel is stored in high-density pools 4-5 times more than their original designs intended., therefore site-specific evaluations of the integrity, composition and current and projected densities of spent-fuel pools must be included in the EIS.

2. Site specific Cumulative impacts of spent fuel pool leaks, i.e. 40% of the spent fuel pools at Indian Point 2 have not been inspected despite historic, current and on-going leaks of radioactive effluent into the groundwater which are leaching into the Hudson River, on which a public drinking water desalination plant is being considered 3 miles down river.

3. Site Specific Cumulative impacts of potential spent fuel pools fires, based on increased density of spent fuel pools; and prior modifications by exemptions, exceptions and relaxations of Appendix R and 805 fire regulations. At Indian Point, where two 36" natural gas pipe lines are within 500' for the spent fuel pools #3 and where there are no on site natural gas shut-off systems, and where prior exemptions of Appendix R regulations have reduced fire safety standards are Indian Point from 3 hours to 24 minutes. In 2005, the National Academy of Science warned of the risk of spent fuel fires and the environmental consequences of increased risk of long term waste storage must be considered for minimum of 60 additional years.

4. Site Specific Cumulative Impacts of self-monitoring by reactor operators of planned and unplanned off-site releases. A comprehensive evaluation, including capture species studies, and continuous, independent radiological monitoring of releases of radiological products into the environment must be conducted for a minimum 1 -2 years, to determine the adequacy of self-monitoring and reporting by reactor operators.

Site specific off-site environmental impacts are qualitatively different at different sites for a variety of reasons, including the surrounding water quality and composition, and corrosiveness of each site-specific environment, i.e. salt water, briny water. Therefore at a minimum the EIS must consider the environmental impacts of interim or long term nuclear waste storage to the ecosystems of 1) River Reactors; 2) Bay Reactors; 3) Ocean Reactors; 4) Proximity to a Dam; and 5) Proximity to Drinking Water Supply.

5. Site Specific Cumulative Health Impacts to groundwater and surface water which supply the public with drinking water within 50 miles of nuclear waste storage sites must be fully evaluated in the EIS to comply with the federal Safe Drinking Water Act.

6. Site Specific Cumulative Health Impacts to food supply, including milk, eggs and other agriculture products produced within the 50 mile radius of nuclear waste storage sites, must be fully evaluated in the EIS.

7. Site specific impacts on Environmental Justice issues as a result of long term high level nuclear waste storage must be fully evaluated in the EIS.

8. **Site specific impacts on Community Character** as a result of long term high level nuclear waste storage must be fully evaluated in the EIS.

9. **Site specific geology, specifically site specific seismology risks to dry cask storage** i.e. the damage done to North Anna's dry cask storage by the August 23, 2011 earthquake; or, risks to spent fuel pools, due to earthquake damage, i.e. Fukushima Daiichi, Unit 4, however most U.S. reactors spent fuel pools contain significantly more high-level radioactive waste than Fukushima Daiichi, Unit 4.

10. **West Valley's 275 reprocessed highly radioactive vitrified "logs"** with an average surface dose of 2500 rads/hr and up to 7600 rads/hr (400-500 rad/hr is a lethal dose) environmental and cost impacts on the Great Lakes, New York and Canadian water supply must be included in any decision on long term Waste Confidence. The current DOE plan provides storage at the rapidly eroding site, outside with no weather protection, in casks licensed for only 50 years. The consequences to air, surface and ground water, flora and fauna, including humans, of highly radioactive waste storage at West Valley of the reprocessed, damaged irradiated fuel (SNF); high level waste sludge; and tanks buried at the erosion prone site must be included in the EIS on Waste Confidence. The West Valley site must be fully evaluated in the EIS to insure full and complete cleanup.

Generic Issues:

1. A basis must be established as an **enforceable and meaningful definition of "reasonable assurance"** of **"adequate protection of the public health and safety"**. To date no such definition exists.

2. **Backup power sources:** Despite having much more radioactivity capable of escaping into the environment than a reactor core, reactor pools do not have thick-secondary containment, and are not required to have their own emergency back-up power or water make-up capabilities. Power back up systems alternatives, including solar and wind power back up requirements must be considered to prevent slow motion boil down environmental impacts, due to loss of off-site electricity, whether due to a natural disaster; an intentional attack; a reactor accident; station blackout; and abandonment of the nuclear power plant.

3. **Cumulative Health Impacts to most vulnerable members of the public, including fetuses, young children, women, and the elderly.** The current standards of the Standard American Man (SAM), a 6', 20-30 year old white male, does not adequately represent the most vulnerable members of society. Failure to consider the cumulative impacts and cost of the environmental impacts of long term nuclear waste storage in the middle of communities may have significant impacts on health care costs and fatality rates, and must be considered in the EIS. The EIS must include the alternative of acceptable radiation exposure standards for reference men vs. acceptable radiation exposure standards for young girls who are half as resistant to radiation.

When the reactor is shut down, the spent fuel being removed contains a myriad of radioactive isotopes with different half-lives including longer lived radioisotopes, notably cesium-137 (half-life=30 years), along with very long-lived fission products (i.e. iodine-129, Technetium-99, Cs-135) and actinides (plutonium-239, americium-241) that have half-lives ranging from tens of thousands to millions of years.

Spent fuel contains materials that are in a class of their own because they are radiotoxic, meaning that they create biological damage based on their radioactive properties alone. The most immediate and severe form of harm is from tissue destructive doses of radiation estimated to be as low as 50 rems. Doses well above this level can damage or destroy organs of the human body, such as bone marrow, lungs, skin, gastrointestinal system, brain and thyroid. **Direct exposure to a spent nuclear fuel assembly at a near distance at would give off more than 10,000 rems per hour (100 Sv/hr) in the form of external penetrating radiation. A person standing within 3 feet of this assembly would receive a lethal dose within minutes. For the next 100 years, it would give off life threatening doses at this distance.** Long-term damage from lower chronic environmental doses are mostly from mutational damage to individual cells and includes cancers, other diseases, and lasting genetic damage, including congenital abnormalities, chromosomal disorders, and range of diseases, which could span generations. **Women, the fetus/embryo and small children are the most vulnerable.**

From the perspective of public safety, the cesium-137 content in spent fuel is an important radioisotope of concern. With a half-life of 30-years, Cs-137 gives off external penetrating radiation as it decays and accumulates in living organisms as if it were potassium. According to the National Council on Radiation Protection and Measurements (NCRP), **"Cs-137 has often proven to be the most important long-term contributor to the environmental radiation dose received by humans and other organisms as a result of certain human activities.** As the reactor accidents at Chernobyl, in the Ukraine in 1986 and the Fukushima Dai-Ichi site in Japan last year, large-scale environmental contamination by Cs-137 underscores this concerns. **Approximately 40 percent of the intermediate and long-lived radioactivity in the spent nuclear fuel generated by reactors throughout the U.S. is Cs-137.**

4. Impacts on radioactivity on the integrity of aging materials including cladding, storage systems concrete and steel, and existing spent fuel pools must be included in the EIS scoping.

5. Climate change impacts over the next 100 to 200 years must be included in within the scope of the EIS.

a. Climate change impacts on nuclear waste storage including, but not limited to, extreme weather events which could damage off-site power necessary to cool spent fuel pools, or damage unhardened dry cask storage, must be considered in the EIS. The impacts on interim and long term nuclear waste storage due to rise in water levels of adjacent waterbodies which result in reclamation of underwater lands in 100 year flood zones.

b. Climate change impacts of nuclear waste storage, specifically the cumulative, long term waste heat impacts, long term impact on thermal pollution to the environment must be fully accessed.

6. Impacts of increasing knowledge of active geological systems due to scientific advancements in seismology and increased man-made geological impacts, such as fracking which may increase the likelihood of earthquakes, earth movement or volcanic activity.

7. Fiscal solvency of waste management is not part of the aging management programs evaluated in the new superseding license "renewal proceedings. Therefore a full evaluation of guarantee of long term fiscal responsibility over hundreds of years.

Issues related to continued private ownership of high level radioactive waste, including **fiscal insolvency and increased liabilities not covered by the Price Anderson Act**, which makes the ratepayer the prime insurers, must be fully evaluated.

Long term **fiscal impacts on local and state governments vs. the Department of Energy taking title to the spent fuel to provide assurance of financial security and solvency by federally maintaining waste management system** must be fully evaluated.

Historically the NRC failed to insure adequacy of levels of decommissioning funds. The GAO has repeatedly reported that decommissioning funds are many plants are underfunded, which in part are due to NRC's granting of exemptions allowing reactor owners to gamble a significant portion their decommissioning funds on the stock market, instead of maintaining an interest bearing segregated escrow account.

8. Unhardened dry cask storage vs Hardened On-Site Storage (HOSS) must be fully considered. Related issues to be included in the EIS:

a. The environmental impacts and **increased risk associated with transferring high-level radioactive waste** from pools to dry casks.

b. **Integrity of the dry cask approved by the NRC, i.e. the Holtec Casks being used a many plants, approved by the NRC even though they failed multiple peer reviewed safety testing.**

c. Design requirement standards to safe guard against accidents, and terrorist attacks to prevent radioactive leakage into the environment for decades or centuries, including adequate spacing between casks, composition of casks, camouflage, fortifications, and standards for securing casks in place by bolts or bermed construction.

9. Terrorism and sabotage risks and impacts, including aerial, terrestrial or cyber attacks must be included in the EIS. For example, Indian Point for one is a known terrorist target, on 9/11 the terrorists flew directly over Indian Point. 9/11.

occurred prior to any dry casks being constructed. If the same scenario occurred today, unbolted down, un-bermed, un-camouflaged dry casks would be veritable sitting ducks, or bowling pins inviting a terrorist attacks.

10. **Methods and guarantees of long term security** regarding on-site high level nuclear waste storage must be included within the scope of the EIS. After 200-300 years after the radiation barrier of spent fuel has been reduced, theft of the spent fuel becomes possible.

CONCLUSION:

NRC has always had confidence there will be a repository – and claims it still has confidence there will be a repository. However, the Court held the Waste Confidence rule cannot be maintained based on a theory which to date has not come to fruition, and requires an adequate EIS. Therefore the NRC must consider an alternative in the EIS that the path to any repository, even "temporary" or on existing reactor sites will be difficult and may be impossible. The EIS must include a "no action alternative" and an alternative so stopping nuclear waste production, until a permanent storage facility exists.

Please keep me posted on any and all hearings related to the Waste Confidence EIS, thank you.

Respectfully,

A handwritten signature in cursive script that reads "Susan Hito Shapiro".

Susan Hito Shapiro, Esq.
On Behalf of
Indian Point Energy Coalition (IPSEC)

Gallagher, Carol

From: milton shapiro [mbs@ourrocklandoffice.com]
Sent: Wednesday, January 02, 2013 9:58 AM
To: Gallagher, Carol
Subject: Indian Point Safe Energy Coalition (IPSEC)
Attachments: doc-INDIAN POINT - LETTER TO CINDY BLADEY & NRC COMMISSIONERS.pdf

Please see attached letter

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