Thank you. On behalf of the Blue Ridge Environmental Defense League and its members, I make the following statement.

Today the NRC is holding public hearings on nuclear waste storage at power plant sites. In brief, our message to the NRC is:

1. There should be regional hearings, so that those living near nuclear power plants and their stored high-level radioactive waste can attend and talk to NRC officials in person.
2. We oppose the NRC’s two-year deadline to complete the waste confidence rule. The agency is rushing the process and the public will suffer if the NRC persists in pleasing the industry at the expense of public safety.
3. We call upon NRC to completely eliminate the waste confidence rule. Because it is a general rule, it cannot apply to the 65 different commercially operated nuclear plant sites across the US. Each site is different and should be treated as such. There should be individual plant environmental impact statements.
4. We oppose nuclear waste dumps. A general waste confidence rule would be based on finding one or more waste dumps which would be located in economically stressed communities. Potential sites would be in the Southeast, such as Savannah River, or on Native American land, such as Yucca Mountain.
5. We support dry, safe storage at nuclear power plant sites. The industry made the waste and profited from it; they should manage it for as long as needs be.

Background

“Waste confidence” is all about high-level nuclear waste which is produced by nuclear reactors, generated in the reactor core and highly radioactive. The US Nuclear Regulatory Commission adopted the original Waste Confidence Decision and Rule (10 CFR 51.23) in 1984. The Decision and Rule were updated in 1990, reviewed in 1999, and updated in 2010. In the 2010 Decision and Rule (10 CFR 51.23), the Commission made five findings:

1. Safe disposal in mined geologic repository is technically feasible.
2. At least one mined geologic repository will be available when necessary.
3. High-level nuclear waste and irradiated fuel will be safely managed until a repository is available.
4. Irradiated fuel can be stored safely and without significant environmental impacts for at least 60 years beyond the licensed life.
5. Onsite or offsite storage for irradiated fuel will be made available if needed. (emphasis added)

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1 The rule: “Temporary storage of spent fuel after cessation of reactor operation” generic determination of no significant environmental impact, 10 CFR Section 51.23.6
However, this year the US Court of Appeals nullified the Nuclear Regulatory
Commission’s Waste Confidence Rule, clearing the way for a variety of challenges at scores of commercial nuclear power reactors in the United States. The DC Circuit Court’s ruling invalidated a broad federal regulation which supports all US nuclear power plant licenses. The old rule presumed that waste stored at reactors would go to a waste dump someday. Following the landmark legal decision, many groups petitioned the Nuclear Regulatory Commission to ensure that the environmental analysis ordered by the Court is properly incorporated into the licensing of nuclear power plants across the nation.

Comments

The NRC is rushing the process

The scoping process for the EIS is now underway. Sometime in 2013, the NRC will prepare a draft EIS. Then a draft Waste Confidence Decision and proposed Rule will be issued for public comment. NRC must resolve many technical issues including long-term waste integrity, vulnerability, deterioration and accidents. Also, the nuclear waste stored at Fukushima is still being evaluated. According to an NRC staff plan, a long-term waste confidence update was expected to take eight years. Yet the NRC has set a deadline of September 2014 to finalize the new rule. The agency’s two-year deadline is rushing the process and the public will suffer if the NRC persists in pleasing the industry at the expense of public safety.

No Dump Site for Nuclear Waste

Under the Nuclear Waste Policy Act of 1982, commercial nuclear power reactor waste disposal is limited to no more than 63,000 metric tons at the nation’s first nuclear dump site. Additional waste is prohibited at such a location, and a second waste site would be required to dispose of waste in excess of that figure. The NWPA prohibits:

ñ..the emplacement in the first repository of a quantity of spent fuel containing in excess of 70,000 metric tons of heavy metal or a quantity of solidified high-level radioactive waste resulting from the reprocessing of such a quantity of spent fuel until such time as a second repository is in operation

The 70,000 metric tons would be 90% commercial nuclear reactor waste, the balance of 10%, or 7000 metric tons, would be waste from nuclear weapons production and nuclear energy research. Therefore, only 63,000 metric tons of commercial irradiated nuclear fuel could be disposed until a second national waste dump becomes available.

According to the U.S. Department of Energy’s Office of Civilian Radioactive Waste Management, a total of 63,000 metric tons of commercial irradiated nuclear fuel was reached in 2010. So the existing, operating commercial nuclear power reactors have effectively filled the

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3 State of New York v. NRC, USCA Case No. 11-1045, Decided June 8, 2012
4 Nuclear Waste Policy Act of 1982, Section 114(d); 42 U.S.C. § 10134(d)
5 Yucca Mountain EIS at A-1
6 DOE OCRWM Director Ward Sproat III at the U.S. Nuclear Regulatory Commission Regulatory Information Conference
nation's first waste site and are now well into the second. Within the next twenty years, over 80,000 metric tons of irradiated nuclear fuel will have been generated at commercial nuclear reactors in the U.S. This was known well before the NRC's last review of waste confidence in 1999.\footnote{U.S. Nuclear Waste Technical Review Board, *Disposal and Storage of Spent Nuclear Fuel: Finding the Right Balance,* (March 1996)} In fact, the DOE predicted that there would be over 105,000 metric tons of commercial irradiated nuclear fuel by the year 2046.\footnote{Final Environmental Impact Statement for a Repository for Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada, (Feb. 2002)} Although the NRC's standard license extension is for 20 years, the DOE's assessment was based on license extensions of only 10 years. Further, DOE's estimate included no new commercial nuclear reactors in the U.S. Therefore, the high-level nuclear waste generated by existing reactors is well on the way to filling twice over a mined geologic repository which the NRC has assumed will be available when necessary.\footnote{Principles for Safeguarding Nuclear Waste at Reactors, September 15, 2007, available at: http://www.beyondnuclear.org/storage/principles_for_safeguarding_irradiated_fuel_knownukesnvvalley_9152008.pdf}

The Blue Ridge Environmental Defense League has raised this specific issue in several NRC licensing proceedings, including Bellefonte Units 3 and 4 Docket Nos. 52-014 and 52-015, North Anna Unit 3 Docket No. 52-017, William States Lee III Docket Nos. 52-018 and 52-019 and Vogtle Units 3 and 4 Docket Nos. 52-025 and 52-026, but until *State of New York v. NRC* the Commission has been recalcitrant.

**Duck Tape: Because All Nuclear Waste Solutions are Temporary**

The general principles for at-reactor storage of high-level nuclear waste has been outlined in a letter from national, regional and local non-governmental organizations including Blue Ridge Environmental Defense League.\footnote{Principles for Safeguarding Nuclear Waste at Reactors, September 15, 2007, available at: http://www.beyondnuclear.org/storage/principles_for_safeguarding_irradiated_fuel_knownukesnvvalley_9152008.pdf} I recommend these principles as a starting point for the current scoping process:

- **Require a low-density, open-frame layout for fuel pools:** Fuel pools were originally designed for temporary storage of a limited number of irradiated fuel assemblies in a low density, open frame configuration. As the amount of waste generated has increased beyond the designed capacity, the pools have been reorganized so that the concentration of fuel in the pools is nearly the same as that in operating reactor cores. If water is lost from a densely packed pool as the result of an attack or an accident, cooling by ambient air would likely be insufficient to prevent a fire, resulting in the release of large quantities of radioactivity to the environment. A low density, open-frame arrangement within fuel pools could allow enough air circulation to keep the fuel from catching fire. In order to achieve and maintain this arrangement within the pools, irradiated fuel must be transferred from the pools to dry storage within five years of being discharged from the reactor.

- **Establish hardened on-site storage (HOSS):** Irradiated fuel must be stored as safely as possible as close to the site of generation as possible. Waste moved from fuel pools must be safeguarded in hardened, on-site storage (HOSS) facilities. Transporting waste to interim away-from-reactor storage should not be done unless the reactor site is unsuitable for a HOSS facility and the move increases the safety and security of the waste. HOSS facilities must not be regarded as a permanent waste solution, and thus should not be constructed deep underground. The waste must be retrievable, and real-time radiation and heat monitoring at the HOSS facility must be implemented for early detection of radiation releases and
overheating. The overall objective of HOSS should be that the amount of releases projected in even severe attacks should be low enough that the storage system would be unattractive as a terrorist target. Design criteria that would correspond to the overall objective must include:

a) Resistance to severe attacks, such as a direct hit by high-explosive or deeply penetrating weapons and munitions or a direct hit by a large aircraft loaded with fuel or a small aircraft loaded with fuel and/or explosives, without major releases.  

b) Placement of individual canisters that makes detection difficult from outside the site boundary.

➢ **Protect fuel pools:** Irradiated fuel must be kept in pools for several years before it can be stored in a dry facility. The pools must be protected to withstand an attack by air, land, or water from a force at least equal in size and coordination to the 9/11 attacks. The security improvements must be approved by a panel of experts independent of the nuclear industry and the Nuclear Regulatory Commission.

➢ **Require periodic review of HOSS facilities and fuel pools:** An annual report consisting of the review of each HOSS facility and fuel pool should be prepared with meaningful participation from public stakeholders, regulators, and utility managers at each site. The report must be made publicly available and may include recommendations for actions to be taken.

➢ **Dedicate funding to local and state governments to independently monitor the sites:** Funding for monitoring the HOSS facilities at each site must be provided to affected local and state governments. The affected public must have the right to fully participate.

➢ **Prohibit reprocessing:** The reprocessing of irradiated fuel has not solved the nuclear waste problem in any country, and actually exacerbates it by creating numerous additional waste streams that must be managed. In addition to being expensive and polluting, reprocessing also increases nuclear weapons proliferation threats.

Thank you for the opportunity to make these comments. We intend to submit further remarks before the close of the comment period.

Respectfully,

Louis A. Zeller
Executive Director, Blue Ridge Environmental Defense League