

December 20, 2013

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff

VIA EMAIL: Rulemaking.Comments@nrc.gov

Re: Docket ID NRC-2012-0246

Dear Secretary:

The following comments are submitted on behalf of the Nuclear Free Campaign of the Sierra Club regarding the Draft Generic Environmental Impact Statement (DGEIS) for the Waste Confidence Decision and Rule. The Sierra Club is the nation's largest grassroots environmental organization with over 600,000 members. The Sierra Club supports sustainable energy alternatives that do not harm the environment. The Sierra Club opposes nuclear power because its fuel cycle from uranium mining to spent radioactive fuel poses grave dangers to the environment. In addition, reliance on nuclear power unjustifiably delays the beneficial transition to clean and renewable energy sources.

We believe that the DGEIS fails to evaluate an important alternative that must be considered in the analysis of environmental impacts of radioactive spent nuclear fuel. That alternative is to stop licensing any new nuclear reactors and decommissioning all existing reactors so we are not creating any more radioactive waste.

Background

The Waste Confidence Decision and Rule have their genesis in a federal court decision in 1979, Minnesota v. NRC, 602 F.2d 412 (D.C. Cir. 1979). That case arose from requests by reactor licensees for license amendments to permit expansion of on-site spent fuel storage capacity. In

evaluating these license amendment requests, the NRC failed to consider the implications arising from the possibility that a permanent repository for the radioactive waste might never be found and thus, the reactor sites would become permanent storage facilities. The court held, therefore, that the NRC must "consider the safety and environmental implications of indefinite storage on-site after decommissioning of the reactor." Id. at 415.

In order to comply with the Minnesota case, the NRC promulgated its Waste Confidence Decision and Rule in 1984. The Waste Confidence Decision purported to be an environmental assessment with a finding of no significant impact. The subsequent history of the Waste Confidence Decision and Rule is recited in New York v. NRC, 681 F.3d 471 (D.C. Cir. 1012).

The important point to be understood is that the Waste Confidence Decision and Rule are an integral part of the licensing process for nuclear reactors.

The Requirements of NEPA

The National Environmental Policy Act (NEPA) is the basis for the DGEIS in this case. NEPA "declares a broad national commitment to protecting and promoting environmental quality." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 348, 109 S.Ct. 1835 (1989). NEPA has in fact become the "basic national charter for protection of the environment." 40 C.F.R. § 1500.1. Compliance with NEPA ensures that federal agencies will consider significant environmental impacts of federal action, make available the relevant information, and open to public scrutiny their decision making process. Churchill County v. Norton, 276 F.3d 1060, 1072 (9th Cir. 2001).

In order to comply with NEPA an agency must take a "hard look" at the environmental impacts of a project before acting. Sierra Club v. Kimbell, 623 F.3d 549 (8th Cir. 2010). An agency takes a hard look when it "obtains opinions from experts outside the agency, gives careful scientific scrutiny, and responds to all legitimate concerns that are raised." Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 377, 109 S.Ct. 1851 (1989). But the agency cannot take a hard look and then "ignore what it saw." Audubon Soc. of Cent. Arkansas v. Dailey, 977 F.2d 428, 436 (8th Cir. 1992).

An EIS must discuss reasonable alternatives "to the proposed action." 42 U.S.C. § 4332(2)(C)(iii). The alternatives analysis is the "heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA demands that the agency "rigorously explore and objectively evaluate all reasonable alternatives" so the agency can "sharply define the issues and provide a clear basis for choice among options by the decision maker and the public." 40 C.F.R. § 1502.14. The "existence of a viable but unexamined alternative renders an environmental impact statement inadequate." Resources Ltd. v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1994). And the main point of examining alternatives is to avoid environmental harm. So even if an alternative might be superior in non-environmental terms, an alternative can be reasonable if it avoids the environmental harm better than another alternative. Surfrider Foundation v. Dalton, 989 F.Supp. 1309 (S.D. Cal. 1998), *aff'd per curiam*, 196 F.3d 1057 (9th Cir. 1999).

The Alternative of Making No More Waste

Radioactive waste in the form of spent fuel is a dangerous long-term problem. As the court described it in New York v. NRC, *supra*, at 474:

After four to six years of use in a reactor, nuclear fuel rods can no longer efficiently produce energy and are considered "spent nuclear fuel" ("SNF"). Blue Ribbon Commission on America's Nuclear Future, Report to the Secretary of Energy 10-11 (2012). Fuel rods are thermally hot when removed from reactors and emit great amounts of radiation - enough to be fatal in minutes to someone in the immediate vicinity. *Id.* Therefore, the rods are transferred to racks within deep, water-filled pools for cooling and to protect workers from radiation. After the fuel has cooled, it may be transferred to dry storage, which consists of large concrete and steel "casks." Most SNF, however, will remain in spent-fuel pools until a permanent disposal solution is available. *Id.* at 11.

Even though it is no longer useful for nuclear power, SNF poses a dangerous, long-term health and environmental risk. It will remain dangerous "for time spans seemingly beyond human comprehension." Nuclear Energy Inst., Inc. v. EPA, 373 F.3d 1251, 1258 (D.C.

Cir. 2004) (per curiam). Determining how to dispose of the growing volume of SNF, which may reach 150,000 metric tons by the year 2050, is a serious problem. See, Blue Ribbon Commission, supra, at 14.

And it is clear that no one really knows what to do with that waste. Again, quoting from New York v. NRC, supra, at 474:

The delay [in finding a permanent repository] 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 uncertainty regarding the environmental effects of temporary SNF storage and the reasonableness of continuing to license and relicense nuclear reactors. (emphasis added).

In addition, the Blue Ribbon Commission on America's Nuclear Future has said that we may already be at a point where more than one permanent repository is necessary. As noted in New York v. NRC, at this point there is no possibility of finding even one permanent repository in sight. Thus, as we continue to make more spent fuel, the problem becomes worse. The only sensible course of action is to stop making more spent fuel. Therefore, the DGEIS must include an analysis of the alternative of discontinuing production of spent nuclear fuel by not licensing any new reactors and decommissioning all existing reactors.

The Sierra Club and others commented during the scoping process for this DGEIS that the DGEIS must consider the alternative of stopping the production of any more radioactive waste. But the DGEIS has eliminated this proposed alternative from consideration. See, DGEIS § 1.6.3.1. In eliminating this alternative the DGEIS posits three arguments in support of the decision to eliminate this alternative.

Purpose and Need

The DGEIS claims that the cessation of licensing and operation of nuclear reactors would not satisfy the stated purpose and need for the DGEIS. This argument is without merit for several reasons. First, purpose and need as contemplated by NEPA is the purpose and need for the

proposed federal action, not the purpose and need of the EIS. The EIS evaluates the environmental impact of the proposed federal action. The EIS is not the federal action.

Secondly, the federal action involved here is the promulgation of the Waste Confidence Rule. See, DGEIS § 1.4. The proposed rule, amending 10 C.F.R. § 51.23, states that the GEIS for waste confidence precludes the need for discussion of environmental impacts of spent nuclear fuel storage following the term of the reactor license or amendment thereof in any environmental report, EIS or EA in connection with the issuance or amendment of a reactor license.

Therefore, the purpose and need for the federal action is to promulgate a rule that ensures that reactors are licensed so as not to be "inimical" to public health, 42 U.S.C. § 2133(d), and that "[t]here is reasonable assurance . . . that the activities authorized by the operating license can be conducted without endangering the health and safety of the public . . . ," 10 C.F.R. § 50.57(a)(3). Because radioactive spent fuel is extremely dangerous and no one knows what to do with it, the purpose and need for the Waste Confidence Rule must include the alternative of making no more radioactive waste.

Furthermore, the ultimate purpose of the Waste Confidence Rule is to inform the NRC's licensing and relicensing decisions. Analyzing the alternative of producing no more waste will require the NRC to consider whether to cease issuing licenses for new reactors, to deny relicensing applications, and to revoke existing licenses.

The NRC Cannot Revoke or Deny a License

The NRC's next argument in its attempt to avoid considering the alternative of terminating licensing and reactor operation is that the Atomic Energy Act requires the NRC to license nuclear reactors unless there is a threat to public health and safety. But as presented by the NRC, this becomes a circular argument.

The NRC states that it already has regulations in place to provide reasonable assurance of public health and safety and consideration of the environmental impacts of storing spent fuel. But the regulation allegedly providing such assurance is the Waste Confidence Rule, which is the rule

that is being amended and evaluated with the DGEIS. Therefore, the NRC's argument is circular and self-serving.

It is also important to note that the NRC has the authority to revoke a nuclear reactor license. 10 C.F.R. § 100 authorizes the NRC to revoke a license for "conditions . . . which would warrant the Commission to refuse to grant a license on an original application." Based on the August 7, 2012, Order of the NRC refusing to grant pending licenses and license renewals because of the court decision vacating the Waste Confidence Decision, the Waste Confidence Decision would be a "condition[] . . . which would warrant the Commission to refuse to grant a license on an original application," requiring the NRC to revoke the relicensing decisions described above.

The Atomic Energy Act, 42 U.S.C. § 2133(d), states that the NRC cannot issue a reactor license if it would be "inimical" to public health. The NRC, by its own regulations, cannot issue a license unless "[t]here is reasonable assurance . . . that the activities authorized by the operating license can be conducted without endangering the health and safety of the public" 10 C.F.R. § 50.57(a)(3). The essence of the decision in New York v. NRC was that spent nuclear fuel is a danger to public health and safety and that there is no reasonable assurance that a permanent repository will ever be established. And as the court in New York v. NRC found, spent nuclear fuel "poses a dangerous, long-term health and environmental risk. It will remain dangerous 'for time spans seemingly beyond human comprehension.'"

With respect to the effect of the Waste Confidence Decision on revoking renewed licenses, there are two classes of reactor relicensing decisions: those that were issued before the December 23, 2010 Waste Confidence Decision and those issued after that decision. The former, first issued in 2000, were issued when the 1990 Waste Confidence Decision was in effect. The latter were issued when the 2010 Waste Confidence Decision was in effect.

Any reactor licensed after 2010 should be subject to the findings of the Court of Appeals that the Waste Confidence Decision is invalid and cannot form the basis for relicensing. If pending licensing and relicensing proceedings cannot result in licenses being issued, the renewed licenses after 2010 should not have been issued

because those relicensings are based on a "condition[] . . . which would warrant the Commission to refuse to grant a license on an original application."

The licenses renewed before December 23, 2010 are invalid because the 1990 Waste Confidence Decision suffered from the same infirmity that invalidated the 2010 decision. In fact, the 1990 Waste Confidence Decision predicted a permanent repository by 2025, a date that no one now believes is even remotely realistic. This is clearly shown by the NRC's now aborted attempt to justify on-site storage for 200 plus years. Thus, the relicensing decisions prior to the issuance of the 2010 Waste Confidence Decision were based on a false premise and those renewed licenses would be issued in violation of 42 U.S.C. § 2133(d) and 10 C.F.R. § 50.57(a) (3).

Based on the foregoing, the NRC has the authority to refuse to issue new reactor licenses and renewals and to revoke existing licenses when public health and safety and the environment are impacted.

Cessation of Licenses and Operations Would Not Reduce Environmental Impacts

The NRC claims that although cessation of reactor licensing and operations would prevent the production of radioactive waste, other environmental impacts could result from the required development of alternative power sources or demand reductions. Significantly, however, the NRC does not even hint at what those other environmental impacts might be.

In this same vein, the NRC makes the snide comment that even if no more radioactive waste is produced, the environmental impact of continued storage of the existing waste would still be present. That may be true, but the NRC must still consider how to mitigate the environmental impact of there being no solution to the storage of even more waste. That is especially true when there is no foreseeable solution to the presently existing waste.

Furthermore, in response to the NRC's argument that there will still be existing waste on site even if production of waste is halted, a discussion of the alternative of discontinuing production of radioactive waste should include the feasibility of hardened on site storage (HOSS). Although HOSS is not the perfect solution to the

radioactive waste problem, it is the best solution to a bad situation. There actually is no permanent solution to the existence of approximately 70,000 tons of radioactive waste currently stored at reactor sites. But HOSS is a much better alternative than the groundless hope expressed in the DGEIS that this waste can be stored in pools and dry casks essentially forever. Therefore, a discussion of HOSS in the DGEIS is required.

In discussing the alternative of discontinuing production of spent fuel, the EIS should consider how renewable energy can replace whatever current or future energy needs would have been supplied by nuclear power if nuclear power is discontinued as an energy source. Numerous studies have shown that we can generate all the energy we need from renewable sources with a comprehensive transmission and distribution grid if we will adopt policies supporting that vision. See, e.g., Archer and Jacobson, Supplying Baseload Power and Reducing Transmission Requirements by Interconnecting Wind Farms, *Journal of Applied Meteorology and Climatology* (v. 46, Nov. 2007); Jacobson and Delucchi, Providing All Global Energy with Wind, Water, and Solar Power, Part I: Technologies, Energy Resources, Quantities and Areas of Infrastructure, and Materials, *Energy Policy* (v. 39, p. 1154-1169); Jacobson and Delucchi, Providing All Global Energy with Wind, Water, and Solar Power, Part II: Reliability, System and Transmission Costs, and Policies, *Energy Policy* (v. 39, p. 1170-1190; Jacobson and Archer, Saturation Wind Power Potential and Its Implications for Wind Energy, found at www.pnas.org/cgi/doi/10.1073/pnas.1208993109. See also, The Energy Report:100% Renewable Energy by 2050, prepared for the World Wildlife Fund by Ecofys and found at www.worldwildlife.org/climate/energy-report.html; Big Risks, Better Alternatives, prepared for Union of Concerned Scientists by Synapse Energy Economics, Inc. and found at www.ucsusa.org/assets/documents/nuclear_power/Big-Risks-Better-Alternatives.pdf. Another important source is Arjun Makhijani, Carbon-Free and Nuclear-Free: A Roadmap For U.S. Energy Policy (2007), available for download at www.ieer/carbon-free/.

The electric utilities and energy companies assert that in order to provide baseload power they have to use coal, natural gas or nuclear energy. But baseload as viewed by the utilities and power companies is an outdated concept. They are stuck with the narrow view of electric power coming from power plants. But rather than referring to the

term baseload we are really talking about energy and capacity. Energy is the total amount of electricity that is being supplied to consumers. Capacity is the highest level of electricity that can be supplied at any one time to meet peak demand.

Renewable energy can meet the energy and capacity demands of the country, combined with a program of energy efficiency and conservation and expansion of the transmission grid. Most states have energy efficiency programs subject to public utility regulation. Likewise, many states have renewable electricity standards requiring that a certain amount of the energy consumed in the state be from renewable sources. There are other policies, including feed-in tariffs, tax credits, loan programs, etc., that should be adopted to encourage the expansion of renewable energy. The DGEIS should analyze all of these issues in examining the alternative of stopping the production of spent fuel by not permitting new nuclear reactors and closing existing reactors. This would lead us to a renewable energy future and away from the production of more radioactive nuclear waste.

The other important policy needed to support renewable energy is expansion of the transmission grid. We have heard the comment that since adequate transmission is not available right now we need to continue to expand the use of nuclear energy. That comment is incorrect for two reasons. First, expanded transmission is occurring right now. The Federal Energy Regulatory Commission (FERC) has over the past few years adopted policies to promote expansion of transmission lines. The most recent FERC action is Order 1000 adopted on July 21, 2011. And every area of the country has a regional transmission organization (RTO) that promotes and coordinates expanded transmission in each respective region. In the Midwest, for example, the Midwest RTO (MISO) has approved a number of transmission expansion projects designed to accommodate increased renewable energy production and they are ready for regulatory approval. Second, it takes at least 10 years for a new nuclear plant to be licensed and put on line. New transmission will begin to be constructed within the next year or two, long before we would gain any alleged benefit from additional nuclear power. Furthermore, a new nuclear plant, which would not be needed when renewable energy becomes dominant, would be licensed for probably 40 years and undoubtedly relicensed for another 20 years. We would

be stuck with 60 more years of radioactive waste that could be avoided with the right policies supporting renewable energy.

Finally, we have reviewed the comments being submitted by Diane Curran and colleagues, along with expert declarations, on behalf of various environmental groups and organizations. The Sierra Club Nuclear Free Campaign agrees with and adopts those comments and declarations.

Conclusion

The storage and disposal of radioactive nuclear waste from spent fuel is a long-term problem posing grave risks to public health and the environment for which there is no solution. One alternative to this conundrum - the Sierra Club believes it is the most important alternative - is to stop producing any more radioactive waste. For the reasons stated above, NEPA and common sense require that the DGEIS analyze this alternative.

Prepared by,

/s/ *Wallace L. Taylor*

Wallace L. Taylor
Law Offices of Wallace L. Taylor
118 3rd Ave. S.E., Suite 326
Cedar Rapids, Iowa 52401
319-366-2428; (Fax) 319-366-3886
e-mail: wtaylorlaw@aol.com

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