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Enriching the NRC's Plausible Strategy Precedent: Another Uranium Enrichment Facility Permit is Approved

Nuclear Information and Resource Service v. Nuclear Regulatory Commission¹

I. INTRODUCTION

There are currently 104 nuclear reactors in the United States that provide electricity to American homes and businesses.² These reactors, which are licensed by the Nuclear Regulatory Commission ("NRC"), provide about 20% of the nation's electricity.³ The fuel used by these reactors is known as enriched uranium.⁴ For several decades after the development of nuclear power, the federal government produced all of the enriched uranium used to fuel the United States' nuclear reactors.⁵ In the early 1990s, Congress decided to privatize uranium enrichment by forming the United States Enrichment Corporation ("USEC"), which it later sold.⁶ The USEC operates the only uranium enrichment plant in the United States in Paducah, Kentucky. In 1990, Congress amended the Atomic Energy Act so that the NRC could license the construction and

³ Energy Information Administration,

¹ 509 F.3d 562 (D.C. Cir. 2007).

² Energy Information Administration, Nuclear Energy,

http://www.eia.doe.gov/cneaf/nuclear/page/nuc_reactors/reactsum.html (last visited Feb. 27, 2007). The State of Missouri's only commercial nuclear reactor is located in Callaway County. Energy Information Administration, *Missouri Nuclear Energy*, http://www.eia.doe.gov/cneaf/nuclear/page/at_a_glance/states/statesmo.html (last visited Feb. 27, 2008). The University of Missouri has two test and research reactors; one at its Rolla campus, and the other at its Columbia campus. *Id*.

http://www.eia.doe.gov/cneaf/nuclear/page/nuc_reactors/reactsum.html (last visited Feb. 27, 2008); Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 565 (D.C. Cir. 2007).

⁴ See Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 565 (D.C. Cir. 2007); see also Brief for the Federal Respondents at 3-4, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310).

⁵ Nuclear Info. & Res. Serv., 509 F.3d at 565.

⁶ Id.

operation of additional privately owned uranium enrichment plants.⁷ In the thirteen years following Congress's authorization of the NRC to grant private licenses to enrich uranium, only two applications were submitted, both by Louisiana Energy Services ("LES"), the intervenor in this case.⁸ LES's first application, which was later withdrawn, was to build the "Claiborne" enrichment plant near Homer, Louisiana.⁹ LES then applied for a license to build the "National Enrichment Facility" near Eunice, New Mexico in December of 2003.¹⁰ LES's application to build the National Enrichment Plant in New Mexico and the licensing proceedings are the subject of this case note.

II. FACTS AND HOLDING

In order to obtain a license to build and operate a private-sector uranium enrichment facility, an applicant must present a "plausible strategy" for disposing of the nuclear waste that the facility will generate.¹¹ The strategy must include a reasonable cost estimate for the disposal strategy, along with assurances that the applicant can pay for disposal.¹² To ensure the applicant has met all the requirements for licensure, the NRC must conduct an "adjudicatory hearing on the record," and must also prepare an environmental impact statement under the

⁷ Id.; see also 42 U.S.C. § 2243 (2000).

⁸ Nuclear Info. & Res. Serv., 509 F.3d at 565. The USEC was issued a license in April 2007 to begin construction on a gas centrifuge plant (the "American Centrifuge Plant"). USEC, http://www.usec.com/v2001_02/HTML/Aboutusec_Centrifuge.asp (last visited Feb. 29, 2008).

⁹ Nuclear Info. & Res. Serv., 509 F.3d at 565; see also 47 N.R.C. 113 (1998).

¹⁰ Nuclear Info. & Res. Serv., 509 F.3d at 565.

¹¹ Id.

¹² *Id.* (citing 42 U.S.C. § 2243(d)(2) (2000)). Assurances made by the applicant can be in the form of prepayment (in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities), surety (in the form of a surety or performance bond, letter of credit, or line of credit), insurance, or other guarantee (including parent company guarantee) method, or an external sinking fund in which deposits are made annually. 42 U.S.C. § 2243(d)(2) (2000).

National Environmental Policy Act ("NEPA") before the hearing is completed.¹³

LES applied for an Atomic Energy Act ("AEA") license on December 15, 2003 to construct and operate a uranium enrichment¹⁴ plant near Eunice, New Mexico.¹⁵ The Nuclear Information and Resource Service and Public Citizen (hereinafter "NIRS") petitioned to intervene on April 6, 2004, and the Atomic Safety and Licensing Board ("Board")

¹⁴ Natural uranium is roughly 99.3 percent U-238 (heavy-weight), .7 percent U-235 (middle-weight) and less than .01 percent U-234 (lightweight). Nuclear Resource Commission, http://www.nrc.gov/materials/fuel-cycle-fac/ur-enrichment.html (last visited Feb. 27, 2008). The fuel for nuclear reactors requires a higher concentration of U-235 (the percentage of U-235 needs to be increased from .7 percent of the uranium mass, to about 5 percent of the uranium mass) than exists in uranium's natural state. Id. The process of increasing the amount of U-235 in uranium is called enrichment. Id. There are currently three methods for enriching uranium: gaseous diffusion, gas centrifuge, and laser separation. Id. Currently, only gaseous diffusion is being used to commercially enrich uranium in the United States; however, the plant proposed, and now under construction by Louisiana Energy Services uses the gas centrifuge method. Id; Brief for the Federal Respondents at 3-4, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310). The gas centrifuge process, like the gaseous diffusion process, depends on the slight difference in mass of U-238 and U-235. Brief for the Federal Respondents at 3, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310). In order to prepare for the enrichment process, oxides of natural uranium are chemically converted into uranium hexafluoride (UF6), which is then shipped to the enrichment plant. Brief for the Federal Respondents at 4, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310). Centrifuge machines are connected in such a way to form trains and cascades. Nuclear Resource Commission, http://www.nrc.gov/materials/fuel-cycle-fac/urenrichment.html (last visited Feb. 27, 2008). UF6 gas is then placed in a cylinder rotating at high speed. Id. The rotation speed of the cylinder creates a strong centrifugal force, which causes the slightly heavier U-238 molecules to concentrate toward the outside of the cylinder, while the heavier U-235 molecules collect closer to the axis. Id. The stream which is slightly enriched in U-235 is then fed into the next higher stage, while the slightly depleted stream is recycled back into the next lower stage. Significantly more U-235 enrichment is possible using the gas centrifuge process than the gaseous diffusion process. Id.

¹⁵ Reply Brief for Petitioners in Final Form at 3, *Nuclear Info. & Res. Serv.*, 509 F.3d 562 (Nos. 06-1301, 06-1310).

¹³ Nuclear Info. & Res. Serv., 509 F.3d at 565 (citing 42 U.S.C. § 2243(a)(1), (b)(1)-(2) (2000)).

admitted contentions from NIRS on behalf of three of their members.¹⁶ Two New Mexico state agencies also sought intervention in the NRC proceeding but withdrew their interventions shortly thereafter under a settlement agreement which required LES to ship its depleted uranium waste out of state.¹⁷ The Board then heard NIRS's contentions in a series of on-the-record hearings.¹⁸

NIRS alleged to the Board that the NRC's environmental impact statement ("EIS") was not sufficient in that it had not adequately assessed the environmental impact of the proposed facility, specifically, the environmental hazards associated with near-surface and deep disposal of depleted uranium waste.¹⁹ The NRC, responding to an inquiry from the Board, determined that depleted uranium was "low-level waste,"²⁰ which in turn made LES's disposal of depleted uranium by the Department of Energy (DOE) a "plausible strategy" due to the fact that § 3113 of the USEC Privatization Act requires the DOE to accept waste the NRC considers "low-level" if asked by an NRC-licensed uranium enrichment facility to do so.²¹ The Board then concluded in an evidentiary hearing that the EIS, as supplemented by the NRC decision and underlying record.

¹⁶ Reply Brief for Petitioners in Final Form at 4, *Nuclear Info. & Res. Serv.*, 509 F.3d 562 (Nos. 06-1301, 06-1310).

¹⁷ Brief for the Federal Respondents at 7-8, *Nuclear Info. & Res. Serv.*, 509 F.3d 562, (Nos. 06-1301, 06-1310). The settlement agreement, aside from requiring that the depleted uranium be shipped out of state, also set a limit for onsite storage to fifteen years, set a maximum amount of waste that could be on site at any given time, increased contingency factor provisions once certain onsite storage levels are reached, and required triennial reports on LES's decommissioning cost estimates. *Id.* at 8 n. 2. ¹⁸ *Nuclear Info. & Res. Serv.*, 509 F.3d at 566.

¹⁹ Id.

 ²⁰ See Michael B. Gerrard, Fear and Loathing in the Siting of Hazardous and Radioactive Waste Facilities: A Comprehensive Approach to a Misperceived Crisis, 68 TUL. L. REV. 1047, 1080-83 (1994) (discussing the definition and characteristics of low-level waste).
 ²¹ Brief for the Federal Respondents at 9, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310). 42 U.S.C. § 2297h-11 (2000).

sufficiently analyzed the impacts of disposal, and that near-surface disposal was appropriate.²²

NIRS then appealed both the Board's decisions regarding nearsurface and deep disposal to the NRC, arguing that the near-surface disposal plan did not comply with Part 61²³ radioactive material dose limits and that deep disposal was required in such a case.²⁴ The NRC noted that "this [was] a proceeding to license a uranium enrichment facility, not a proceeding to license a near-surface waste disposal facility," and thus a lower level of specificity for the waste disposal plan was acceptable at such an early stage in the proceeding.²⁵ Addressing the Board's reliance on NRC staff's reference site, Envirocare,²⁶ the NRC cited the "clearly erroneous" standard of review, and deferred to the Board's findings that demonstrated Envirocare would provide a plausible waste disposal facility.²⁷ The NRC also held open the possibility of deep disposal should near-surface disposal prove too hazardous or not in compliance with Part 61; in short, the NRC did not require Part 61

²² Brief for the Federal Respondents at 11, *Nuclear Info. & Res. Serv.*, 509 F.3d 562 (Nos. 06-1301, 06-1310). The NRC acknowledged that the low-level waste classification was established without NEPA analysis of near-surface disposal of large quantities of depleted uranium, but allowed the waste impacts contention to proceed "because a formal waste classification finding is not necessary to resolve the disposal impacts contention." Reply Brief for Petitioners in Final Form at 7, *Nuclear Info. & Res. Serv.*, 509 F.3d 562 (Nos. 06-1301, 06-1310).

²³ See 10 C.F.R. §§ 61.41-42 (2007).

²⁴ Brief for the Federal Respondents at 11, *Nuclear Info. & Res. Serv.*, 509 F.3d 562 (Nos. 06-1301, 06-1310).

²⁵ Brief for the Federal Respondents at 13, *Nuclear Info. & Res. Serv.*, 509 F.3d 562 (Nos. 06-1301, 06-1310).

²⁶ Envirocare is now called Energy Solutions, LLC. Id. at 11 n. 3.

²⁷ *Id.* at 13-14. The Board accepted focusing on one site for NEPA purposes as an example because a disposal site could not be fully evaluated until chosen, and noted that Envirocare was licensed to accept Class A waste for disposal with no current inventory limits on uranium, and also that Envirocare accepted waste from all regions. *Id.* at 11-12. The NRC also noted that the "appropriate regulatory authority" would "conduct any site-specific evaluations necessary to confirm that radiological dose limits and standards can be met. . . ." Reply Brief for Petitioners in Final Form at 15, *Nuclear Info. & Res. Serv.*, 509 F.3d 562 (Nos. 06-1301, 06-1310).

compliance in the EIS.²⁸ The NRC then dismissed NIRS's deep disposal argument as requiring too much precision at such an early stage in the application process.²⁹ The NRC pointed out that its decision becomes "part of the environmental 'record of decision' and in effect supplements the EIS."³⁰

NIRS next contended to the Board that LES had not presented any plausible strategies for disposal of the depleted uranium.³¹ LES presented two possible strategies to the Board for review: (1) the "private-sector strategy" involved LES transferring its waste to a private facility for deconversion into a uranium oxide form, at which point the uranium oxide would be transferred to a licensed disposal facility; and (2) the "public-sector strategy," which involved transferring its depleted uranium to the DOE for deconversion and disposal pursuant to the USEC Privatization Act.³² The Board concluded that both strategies were "plausible," but that LES had only met its burden of proof on financial assurance with respect to the "public-sector strategy."³³

The NRC affirmed the Board's findings that LES had not met its burden of proof on financial assurance for the private-sector strategy, and that the public-sector strategy was plausible.³⁴ The NRC also deemed past

³⁴ Nuclear Info. & Res. Serv., 509 F.3d at 566.

²⁸ Brief for the Federal Respondents at 37-38, *Nuclear Info. & Res. Serv.*, 509 F.3d 562 (Nos. 06-1301, 06-1310).
²⁹ Id. at 14-15. The NRC also noted when affirming the Board's decision that the

¹⁹ *Id.* at 14-15. The NRC also noted when affirming the Board's decision that the "uranium enrichment process does not create new radioactive waste, but actually depletes it." *Id.* Therefore, the NRC reasoned, the "uranium enrichment process (because it removes U-235) actually reduces some of the hazards associated with uranium in its own natural state." *Id.* (quoting CLI 06-15, 63 NRC at 707).

³⁰ Id. (quoting CLI 06-15, 63 NRC at 707 n. 91).

³¹ Nuclear Info. & Res. Serv., 509 F.3d at 566.

³² Id. 42 U.S.C. § 2297h-11(a)(1) says that the "Secretary [of the DOE] . . . shall accept for disposal low-level radioactive waste, including depleted uranium if it were ultimately determined to be low-level radioactive waste, generated by . . . any person licensed by the NRC to operate a uranium enrichment facility. . . ." 42 U.S.C. § 2297h-11(a)(1) (2000). ³³ Nuclear Info. & Res. Serv., 509 F.3d at 566. The Board found that the private-sector strategy proposed by LES lacked reliable cost estimates partly because LES's affiliates

were providing the estimates. Brief for the Federal Respondents at 17, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310).

DOE cost overruns as irrelevant, and that the overruns became moot in any event when LES and NRC Staff agreed to a twenty five percent contingency allowance, which increased the estimate by twenty five percent.³⁵ Therefore, the NRC upheld the cost estimates for the nearsurface public sector waste disposal strategy proposed by LES.

Before the final appeals to the NRC on contested issues, NIRS motion seeking disgualification of one of the NRC filed a Commissioners.³⁶ NIRS argued that the Commissioner's remarks at a meeting unrelated to the dispute were prejudicial.³⁷ The Commissioner, in an unrelated proceeding, stated publicly that NIRS used "factoids or made-up facts or irrelevant facts" to support its positions.³⁸ Commissioner McGaffigan also said that one of NIRS's expert witnesses was a "person who doesn't know anything about radiation" and in the same proceeding had called NIRS as the "Nuclear Disinformation Resource Service."³⁹ Commissioner McGaffigan acknowledged that his personal style was to speak his mind, and explained that his statements at the meeting were "for the purpose of correcting what he perceived to be inaccuracies or misleading statements on a non-adjudicatory matter" unrelated to the instant case.⁴⁰ Commissioner McGaffigan refused to disqualify himself.41

After completing the contested adjudicatory hearings on NIRS's contentions and pursuant to 42 U.S.C. § 2243, the Board conducted the mandatory public hearing on uncontested environmental and safety issues in March of 2006.⁴² Three months later, the Board completed its review and issued a 30-year license for construction and operation of the uranium

³⁵ Reply Brief for Petitioners in Final Form at 19-20, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310).

³⁶ Brief for the Federal Respondents at 22, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310). ³⁷ *Id*.

³⁸ Nuclear Info. & Res. Serv., 509 F.3d at 571.

³⁹ Id.

⁴⁰ Brief for the Federal Respondents at 23, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310).

⁴¹ Id. at 29.

⁴² Nuclear Info. & Res. Serv., 509 F.3d at 566.

enrichment facility in New Mexico.⁴³ The NRC did not disturb the Board's authorization of the license, and the decision became final two months later.⁴⁴ Construction of the National Enrichment Facility has now begun and is expected to be completed in 2009.⁴⁵ The NRC held that LES had presented a plausible strategy for waste disposal and that the Board complied with the AEA in using materials contained in the adjudicatory record, but not contained in the EIS in making its determinations.

III. LEGAL BACKGROUND

Up until the early 1990s, the Federal Government produced all of the enriched uranium used to fuel America's nuclear reactors.⁴⁶ In the 1990s, Congress privatized uranium enrichment operations by forming the United States Enrichment Corporation ("USEC").⁴⁷ In 1990, Congress also amended the Atomic Energy Act ("AEA") to allow the NRC to license the construction and operation of additional privately owned and operated uranium enrichment plants.⁴⁸ LES filed two applications to build a uranium enrichment facility following the enactment of the legislation.⁴⁹ Currently, only two licenses to build privately owned uranium enrichment plants have been granted.⁵⁰ Since only three applications have been submitted, and only two licenses have been issued for construction of uranium enrichment facilities, decisions interpreting the statutes and regulations governing the licensure of such facilities are sparse.

⁴³ Id.

⁴⁴ Id.

⁴⁵ Id.; Urenco, The National Enrichment Facility,

http://www.urenco.com/sectionFrontPage.aspx?m=1705.

⁴⁶ Nuclear Info. & Res. Serv., 509 F.3d at 565.

⁴⁷ *Id.*; see also USEC Privatization Act, Pub. L. No. 104-134, §§ 3101-17, 110 Stat. 1321, 1321-335 to-350 (1996).

 ⁴⁸ Nuclear Info. & Res. Serv., 509 F.3d at 565; see also Solar, Wind, Waste, and Geothermal Power Production Incentives Act of 1990, Pub. L. No. 101-575, § 5, 104 Stat. 2834, 2835-36 (codified as amended at 42 U.S.C. § 2243 (2000)).
 ⁴⁹ Nuclear Info. & Res. Serv., 509 F.3d at 565.
 ⁵⁰ Id.

ENRICHING THE NRC'S PLAUSIBLE STRATEGY PRECEDENT

The Environmental Impact Statement a.

The National Environmental Policy Act (NEPA) has two main goals: (1) to place "upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action,"⁵¹ and (2) to ensure that the agency will "inform the public that the agency has considered environmental concerns in its decisionmaking process."52 The AEA requires that an environmental impact statement be "prepared . . . before the hearing on the issuance of a license for the construction and operation of a uranium enrichment facility is completed."53 The AEA also says that the "issuance of a license . . . for the construction and operation of a uranium enrichment plant is a major federal action³⁴ Under the NEPA, a federal agency proposing a major "[f]ederal action affecting the quality of the human environment" is required to provide a "detailed statement" discussing "(i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented," and "(iii) alternatives to the proposed action."55

The first argument advanced by NIRS was that the NRC violated the AEA by "supplementing" the EIS after the adjudicatory hearing on the license application.⁵⁶ As noted above, when the application is filed an EIS is required by statute to be prepared.⁵⁷ The NRC then prepares both draft and final EISs.⁵⁸ NRC regulations permit anyone with an "interest" that may be affected by the proceeding to intervene in the proceeding as long as the person specifies the contentions which he or she seeks to have

⁵¹ Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 553

^{(1978).} ⁵² Weinberger v. Catholic Action of Haw./Peace Educ.Project, 454 U.S. 139, 143 (1981). 53 42 U.S.C. § 2243(a)(2) (2000); see also 10 C.F.R. § 51.97(c) (2000).

^{54 42} U.S.C. § 2243(a)(1) (2000).

^{55 42} U.S.C. § 4332(C)(i)-(iii)(2000).

⁵⁶ Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 568 (D.C. Cir. 2007).

⁵⁷ See supra p. 8; Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 553 (1978).

⁵⁸ 42 U.S.C. § 2243(a) (2007); see also Brief for the Federal Respondents at 4, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310).

litigated.⁵⁹ Intervenors may file contentions and seek adjudicatory hearings on environmental issues.⁶⁰ Pursuant to § 2243(b), adjudicatory hearings on uranium enrichment facilities are formal, "on-the-record" proceedings.⁶¹ The adjudicatory record and Board decisions, along with any appellate decisions by the Commission in effect become part of the final EIS.⁶² If the litigant is unsatisfied with the Board's rulings, the litigant will have fifteen days to appeal the Board's decision to the NRC.⁶³

NIRS's next argument was that the NRC's review of the EIS was deficient, and did not adequately analyze the impact of uranium waste disposal from the enrichment facility.⁶⁴ Judicial review of an EIS guarantees that the agency "adequately considered and disclosed the environmental impact of its actions."⁶⁵ The reviewing court considers whether the agency in question "took a 'hard look' at the environmental consequences of its decision to go forward with the project."⁶⁶ The role of the court is only to consider whether the agency decision is "arbitrary

- 60 10 C.F.R. § 2.309(a) (2007).
- ⁶¹ 42 U.S.C. § 2243(b) (2000).

⁵⁹ 10 C.F.R. § 2.309(a) (2007); *see also* Envirocare of Utah, Inc. v. Nuclear Regulatory Comm'n 194 F.3d 72, 76 (D.C. Cir. 1999) (discussing the definition of "interest" and standing for parties seeking to intervene in NRC proceedings).

⁶² In re La. Energy Servs., L.P. (Claiborne Enrichment Center), 47 N.R.C. 77, 89 (1998) (citing In re Phila. Elec. Co. (Limerick Generating Station, Units 1 and 2), 22 N.R.C. 681, 705-07 (1985)); see also Citizens for Safe Power v. Nuclear Regulatory Comm'n, 524 F.2d 1291, 1294 n. 5 (D.C. Cir. 1975) (rejecting argument that more public comment would have been submitted had supplemental material been added as speculative); see also New England Coal. on Nuclear Pollution v. Nuclear Regulatory Comm'n, 582 F.2d 87, 94 (1st Cir. 1978) (omissions from an EIS may be amended or supplemented simply by subsequent consideration in agency hearings); see also 10 C.F.R. § 51.92 (2007) (describing the procedure for supplementing the EIS, which NIRS did not challenge).

⁶⁴ Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 569 (D.C. Cir. 2007).

⁶⁵ Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc., 462 U.S. 87, 97-98 (1983).
⁶⁶ Kleppe v. Sierra Club, 427 U.S. 390, 410 n. 21 (1976); Cmtys. Against Runway Expansion v. F.A.A., 355 F.3d 678, 685 (D.C. Cir. 2004); see also Matthew C. Stephenson, A Costly Signaling Theory of "Hard Look" Judicial Review, 58 ADMIN. L. REV. 753 (providing a critique of "hard look" review).

and capricious."⁶⁷ An agency decision will not be arbitrary and capricious so long as the agency has scrutinized the EIS and provided a satisfactory explanation for its decision, including a "rational connection between the facts found and the choice made."⁶⁸ Where an agency is "making predictions within its area of special expertise" as "opposed to simple findings of fact," a "reviewing court must generally be at its most deferential."⁶⁹ The NEPA does not mandate particular results in and of itself, but merely details the process used by the NRC for review of an EIS 70

b. A "Plausible" Strategy

NIRS also argued that the NRC should not have approved the license because LES did not present a reasonable cost estimate for disposing of the radioactive waste generated by the facility.⁷¹ An applicant applying for a license to construct and operate a uranium enrichment facility is not required to present a "concrete plan" for disposal of the radioactive waste generated by the facility.⁷² Instead, the applicant is only required to present a "plausible strategy for the disposition of depleted uranium waste."⁷³ Although an applicant may present more than one strategy for review (as in this case), NRC regulations require only one disposal strategy to be "plausible."⁷⁴ Section 3113 of the USEC Privatization Act requires the DOE to take title to the waste generated by an enrichment facility (assuming it has been determined by the commission to constitute low-level radioactive waste, which in the present

⁶⁷ Balt. Gas, 462 U.S. at 97-98.

⁶⁸ Milk Indus. Found. v. Glickman, 132 F.3d 1467, 1471 (D.C. Cir. 1998) (quoting Motor Vehicles Mfrs, Ass'n of U.S. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983)). 69 Balt. Gas, 462 U.S. at 103.

⁷⁰ Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989).

⁷¹ In re La. Energy Servs., L.P. (Claiborne Enrichment Center), 34 N.R.C. 332, 337 (1991); Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 569 (D.C. Cir. 2007). ⁷² In re La. Energy Servs., L.P. (Claiborne Enrichment Center), 34 N.R.C. at 337.

⁷³ Id.

⁷⁴ See 10 C.F.R. § 70.25(a) (2007).

case it was) at the generator's request, with the generator reimbursing the DOE for the disposal costs.⁷⁵

Along with presenting a "plausible strategy" for waste disposal, an applicant must also present a reasonable cost estimate for disposal, and give adequate assurance that the applicant can pay the costs both of disposal, and of decommissioning the plant at the end of its useful life.⁷⁶ When examining the reasonableness of cost estimates, the NRC will not accept arguments based on past cost overruns and the "character" of either the licensee or the party charged with disposal unless there is a "direct and obvious relationship between the character issues and the licensing action in dispute."⁷⁷ Therefore, unless the previous cost overruns will have any direct bearing on the particular licensing proceeding, they will not be taken into account by the NRC when considering the reasonableness of the applicant's cost estimate for disposal.⁷⁸ The reviewing court will again examine the NRC's determinations in a deferential manner.⁷⁹

c. Commissioner Disqualification

NIRS also moved to disqualify an NRC Commissioner, arguing that the commissioner had made comments in the past that made him biased against NIRS.⁸⁰ A commissioner's decision not to recuse or disqualify himself is reviewed under an abuse of discretion standard.⁸¹ There is a presumption that administrative officers are objective and

⁷⁵ 42 U.S.C. § 2297h-11(a)(1)(B), (2) (2000).

⁷⁶ See 42 U.S.C. § 2243(d)(2) (2000); see also 10 C.F.R. § 70.25(a), (e) (2007).

⁷⁷ In re Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Units 2 and 3), 54 N.R.C. 354, 365 (2001).

⁷⁸ Id. at 365-66; see also In re La.Energy Servs., L.P. (National Enrichment Facility), 64 N.R.C. 37, 46 n. 38 ("Allegations of management improprieties or poor 'integrity' ... must be of more than historical interest: they must relate directly to the proposed licensing action.").

⁷⁹ Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 571 (D.C. Cir. 2007).

⁸⁰ Id.

⁸¹ Air Line Pilots Ass'n v. U.S. Dep't. of Transp., 899 F.2d 1230, 1232 (D.C. Cir. 1990); Metro. Council of NAACP Branches v. FCC, 46 F.3d 1154, 1164 (D.C. Cir. 1995).

"capable of judging a particular controversy fairly on the basis of its own circumstances."⁸² The presumption cannot be rebutted just because the agency official has "taken a public position, or has expressed strong views, or holds an underlying philosophy with respect to an issue in dispute⁸³ Agency officials are not obliged to be subjectively impartial; rather, the agencies are only required to objectively evaluate arguments and consider them in good faith.⁸⁴ An agency official should only be disqualified where a "disinterested observer may conclude that the decisionmaker has in some measure adjudged the facts as well as the law of a particular case in advance of hearing it.⁸⁵ This language has been construed to mean that a commissioner may only be disqualified where he has "demonstrably made up [his] mind about important and specific factual questions and [is] impervious to contrary evidence.⁸⁶

IV. THE INSTANT DECISION

The United States Court of Appeals for the District of Columbia addressed the question of whether the Nuclear Regulatory Commission complied with the National Environmental Policy Act and the Atomic Energy Act.⁸⁷ Circuit Judge Brett Kavanaugh, writing for the court, held that NRC had complied with all of the provisions of both the NEPA and the AEA, and upheld the NRC's decision to grant the license for a new, privately owned uranium enrichment facility in New Mexico.⁸⁸ NIRS

⁸⁸ Id.

⁸² United Steelworkers of Am., AFL-CIO-CLC v. Marshall, 647 F.2d 1189, 1208 (D.C. Cir. 1981) (quoting U.S. v. Morgan, 313 U.S. 409, 421 (1941)).

⁸³ Id. (quoting Hortonville Joint Sch. Dist. No. 1 v. Hortonville Educ. Ass'n, 426 U.S. 482, 493 (1976)).

⁸⁴ Carolina Envtl. Study Group v. U.S., 510 F.2d 796, 801 (D.C. Cir. 1975); see also Lead Indus. Ass'n, Inc. v. EPA, 647 F.2d 1130, 1179 (D.C. Cir. 1980) ("agency decisionmakers are appointed precisely to implement statutory programs, and so inevitably have some policy preconceptions").

⁸⁵ Metro. Council of NAACP, 46 F.3d at 1164-65 (citing Cinderella Career & Finishing Sch., Inc. v. FTC, 425 F.2d 583, 591 (D.C. Cir. 1970)).

⁸⁶ Id. at 1165 (quoting United Steelworkers, 647 F.2d at 1209).

⁸⁷ Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 565 (D.C. Cir. 2007).

advanced four arguments against granting the license: (1) that the NRC supplemented the environmental impact statement during the hearing process, and thus violated the Atomic Energy Act; (2) that the NRC failed to adequately address the environmental consequences of disposing of the facility's uranium waste and therefore violated the National Environmental Policy Act; (3) that LES's cost estimate for the waste disposal was unreasonable; and (4) that NRC Commissioner McGaffigan should have disqualified himself from the licensure proceeding because Commissioner McGaffigan made comments regarding NIRS in an unrelated proceeding, and thus the review of the license application was not impartial.⁸⁹

Before addressing NIRS's claims, the court first turned to the issue of whether NIRS had standing to bring the suit in the first place.⁹⁰ The court noted that organizations will have standing under Article III of the Constitution by showing "that at least one of its members would have standing to sue in his or her own right."⁹¹ The court noted that this was a procedural rights case where the party had a "procedural right to protect his concrete interests."⁹² In these cases, the party will have standing to challenge an agency's failure to follow a procedural requirement "so long as the procedures in question are designed to protect some threatened concrete interest" of the party.⁹³ The court also noted that individuals living near a proposed federal project and alleging a concrete injury have standing in NEPA and other procedural rights cases.⁹⁴ NIRS claimed that because the NRC had not identified a suitable waste disposal strategy for the facility, the waste would be stored at the facility and emit harmful radiation, which would harm citizens (who were also members of NIRS) living near the facility.⁹⁵ The court then concluded that because NIRS's claims, if successful, would require the NRC to take additional steps and

⁸⁹ Id. at 566.

⁹⁰ Id. at 567.

⁹¹ Id. (citing Nuclear Energy Inst., Inc. v. EPA, 373 F.3d 1251, 1265 (D.C. Cir. 2004)).

⁹² Id. (quoting Lujan v. Defenders of Wildlife, 504 U.S. 555, 572 n. 7 (1992)).

⁹³ Id. (citing Lujan, 504 U.S. at 573 n. 8).

⁹⁴ Id.

⁹⁵ Id.

at least delay construction of the facility, that NIRS's claims were sufficient to give them standing. 96

The court then moved on to NIRS's first argument, that the NRC violated the Atomic Energy Act by supplementing the Environmental Impact Statement after the close of hearings on the license application.⁹⁷ The court began by reviewing the provisions that applied, most notably Section 193 of the Atomic Energy Act, which states, "An environmental impact statement . . . shall be prepared before the hearing on the issuance of a license for the construction and operation of a uranium enrichment facility is completed."⁹⁸ The court then pointed out that the draft EIS was completed in September 2004, and the final EIS was completed in July 2005, both well before the NRC's decisions regarding NIRS's contentions.⁹⁹ The court concluded that the NRC satisfied the requirement that the EIS be completed before the hearing.¹⁰⁰

NIRS argued¹⁰¹ that because written opinions of the NRC and Licensing Board and information not contained in the EIS were used when ruling on one of NIRS's contentions, that the EIS was not "prepared" before the hearing.¹⁰² The court, however, ruled that the NRC had complied with the Atomic Energy Act because all that was required was an EIS before the hearing, which the NRC had completed.¹⁰³

NIRS next argued that the NRC's NEPA review was deficient because the impact of uranium waste disposal from the enrichment facility was not sufficiently analyzed.¹⁰⁴ Specifically, NIRS alleged that the EIS did not adequately discuss the use of near-surface disposal for the waste generated by the enrichment facility and its use of Envirocare as a sort of example was faulty.¹⁰⁵ The court bore in mind that the NEPA merely

⁹⁶ Id.
⁹⁷ Id. at 568.
⁹⁸ Id. (quoting 42 U.S.C. § 2243(a)(2) (2000)).
⁹⁹ Id.
¹⁰⁰ Id.
¹⁰¹ NIRS did not argue that the NRC's method of supplementing the EIS violated the NEPA. Id.
¹⁰² Id.
¹⁰³ Id.
¹⁰⁴ Id. at 569.

¹⁰⁵ See supra notes 26-27 and accompanying text.

prescribed the process, not the result, and was to consider whether the "agency took a hard look at the environmental consequences of its actions to go forward with the project."¹⁰⁶ The court found that the NRC had carefully examined the consequences of waste disposal in the EIS.¹⁰⁷ In reaching its conclusion, the court pointed out that multiple sections of the EIS discussed both the waste the facility would generate, and how the waste was to be disposed of.¹⁰⁸ The EIS considered the possibility of both private and public sector disposal facilities licensed to accept various types of low-level waste, described different scenarios for converting and transporting the waste, and analyzed the environmental effects of all the options.¹⁰⁹ The NRC also developed an extensive record of its own aside from the EIS¹¹⁰ and examined the long-term effects of disposing of the depleted uranium.¹¹¹ The court concluded that the NRC easily met its responsibility of examining the environmental consequences of granting the license.¹¹²

NIRS's next contention was that the NRC should not have approved the license because the cost estimate for waste disposal was unreasonable.¹¹³ NIRS contended that LES's cost estimates were too low and should be higher based on the Department of Energy's past history of cost overruns.¹¹⁴ The court began by saying an applicant only needs to present a "plausible strategy¹¹⁵ for the disposition of depleted uranium waste,"¹¹⁶ not a concrete plan.¹¹⁷ The NRC granted the license to LES

¹⁰⁹ Id.

¹¹² *Id*.

¹⁰⁶ Id. at 568-69.

¹⁰⁷ Id. at 569.

¹⁰⁸ Id.

¹¹⁰ NIRS attacked NRC's record as "supplementing" the EIS, even though NRC's record was largely developed in response to NIRS's environmental contentions. Id. ¹¹¹ Id.

¹¹³ Id.

¹¹⁴ Id. at 570.

¹¹⁵ NIRS accepted the "plausible strategy" requirement as the standard, and was arguing that NRC did not have a plausible strategy, much less a concrete plan. Id. at 569. ¹¹⁶ Id. (quoting In re La. Energy Servs., L.P., 34 N.R.C. 332, 337 (1991)). ¹¹⁷ Id.

based on its "public sector strategy," in which the Department of Energy takes title to and disposes of the facility's waste, at LES's cost.¹¹⁸ NIRS did not dispute the plausibility of the public sector strategy, and instead argued that the cost estimate for this strategy understated the probable costs.¹¹⁹ The court dismissed a large portion of NIRS's contentions because they related to the "private sector strategy," while the NRC granted LES's license based solely on the public sector strategy.¹²⁰ LES's cost estimate began with the Department of Energy's cost estimate for waste disposal.¹²¹ LES then added 25% to the Department of Energy's cost estimate, as a "contingency factor" to protect against unforeseen costs.¹²² NIRS asserted that the "contingency factor" should have been much higher because of the Department of Energy's supposed history of underestimating costs on other projects.¹²³ The court rejected this line of argument because, like the NRC, it found that the cost overruns only dealt with the Department of Energy's overruns on unrelated past projects.¹²⁴ The court noted that unless NIRS demonstrated "a direct and obvious relationship between the character issues and the licensing action in dispute," the argument could not succeed.¹²⁵ Since NIRS presented no evidence that the Department of Energy's estimate for the particular project was understated, the court did not find that the waste disposal estimate was unreasonable based on the 25% contingency factor.¹²⁶

The next argument presented by NIRS regarding the reasonableness of the cost estimate for waste disposal involved the type of waste disposal that was being proposed, known as "near-surface

http://www.gao.gov/highlights/d07336high.pdf (Department of Energy has exceeded costs significantly on "many" occasions).

¹¹⁸ Id. at 569-70.

¹¹⁹ Id. at 569-70.

 $^{^{120}}$ Id. at n. 4.

 $^{^{121}}$ Id. at 570.

¹²² Id.

¹²³ *Id.*; *see also* Government Accountability Office, Department of Energy: Major Construction Projects Need a Consistent Approach for Assessing Technology Readiness to Help Avoid Cost Increases and Delays (2007), *available at*

¹²⁴ Id.

 ¹²⁵ Id. (quoting In re La. Energy Servs., L.P., 64 N.R.C. 37, 46 n. 38 (2006)).
 ¹²⁶ Id.

disposal."¹²⁷ NIRS argued that "near-surface disposal" would be inappropriate due to the nature of the waste being produced, and that the project would require "deep disposal,"¹²⁸ which is significantly more expensive than "near-surface disposal."¹²⁹ The court noted that the NRC required only a showing by LES that it could pay for near-surface disposal, and that near-surface disposal of the type of waste in question is permitted under current federal regulations.¹³⁰ The court dismissed NIRS's argument by saying its role was not to "micromanage the NRC's licensure proceeding, or to second-guess its acceptance of reasonable cost estimates," and that its only role was to examine whether the NRC reasonably concluded that LES presented a plausible strategy with reasonable cost estimates.¹³¹ Furthermore, in light of its deferential review, the court concluded it had no basis to rule against the NRC's determination that LES's cost estimate based on near-surface disposal was reasonable.132

NIRS's final argument was that NRC Commissioner McGaffigan¹³³ should have disqualified himself from considering the license application because he had stated in an unrelated previous proceeding that NIRS had used "factoids or made-up facts or irrelevant facts" to support its positions.¹³⁴ NIRS argued that the NRC's decision

¹²⁷ Id.

¹²⁸ Near-surface disposal, as the name suggests, involves disposing of the depleted uranium relatively near the surface of the earth, whereas deep disposal deposits the waste hundreds or thousands of feet underground in a geological repository. *Id.* ¹²⁹ *Id.*

 $^{^{130}}$ Id.

 $^{^{131}}$ Id.

¹³² *Id.* at 571.

¹³³ Commissioner McGaffigan passed away on September 2, 2007. NRC News, *Edward McGaffigan, Longest Serving NRC Comissioner Dies*, http://www.nrc.gov/readingrm/doc-collections/news/2007/07-112.html.

¹³⁴ Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 571 (D.C. Cir. 2007). Commissioner McGaffigan also said that one of NIRS's expert witnesses was a "person who doesn't know anything about radiation" and in the same proceeding had called NIRS as the "Nuclear Disinformation Resource Service." *Id.*

should be vacated and reviewed by an impartial panel.¹³⁵ The court pointed out that administrative officers are presumed to be able to judge any particular controversy objectively, and that a party may not overcome the presumption by merely showing that the administrative officer "has taken a public position, or has expressed strong views, or holds an underlying philosophy with respect to an issue in dispute."¹³⁶ The agency official may only be disqualified where a disinterested observer could conclude that the official had adjudged the case before hearing it.¹³⁷ The court then concluded that since it was Commissioner McGaffigan's "personal style" to speak "vigorously and sometimes colorfully" to spark debate, and because the comments were made in an unrelated, separate proceeding, that Commissioner McGaffigan had not adjudged the facts in advance of hearing the case, and therefore did not abuse his discretion in granting the license.¹³⁸

Accordingly, the court denied NIRS's petitions for review and upheld the NRC's decision to grant the license to LES.¹³⁹

V. COMMENT

NIRS is the first case dealing with the licensure of a uranium enrichment facility, and thus its decision should act as a guideline to future license applicants. In 2007, the NRC received 7 applications to build new nuclear power plants, and between 2007 and 2009, it expects to receive applications for licenses to build 32 new power reactor units.¹⁴⁰ Additionally, it is expected that almost all of the existing nuclear power plants will seek 20-year extension of their operating licenses, with many plants looking to increase their NRC-authorized generating capacity.¹⁴¹

¹³⁵ Id.

¹³⁷ Id.

¹³⁸ Id.

¹³⁹ Id.

¹³⁶ *Id.* (quoting United Steelworkers of Am. v. Marshall, 647 F.2d 1189, 1208 (D.C. Cir. 1981)).

 ¹⁴⁰ Roland M. Frye, Jr., Restricted Communication at the United States Nuclear Regulatory Commission, 59 ADMIN. L. REV. 315, 319-21 (2007) (summarizing NRC Commissioner's remarks regarding new applications for licenses).
 ¹⁴¹ Id.

With this "nuclear renaissance" happening in the U.S., the need for enriched uranium, especially from domestic sources, will continue to increase.¹⁴² With only one existing uranium enrichment plant (which is expected to be decommissioned once USEC completes its other enrichment plant in Ohio) and two enrichment plants under construction, license applications for uranium enrichment facilities are expected to increase.¹⁴³ The NIRS decision sheds light not only on the timing and scope of the EIS required in the application process, but on the specificity and "plausibility" of the waste disposal strategy as well as the cost estimates required for that strategy.

In addressing NIRS's argument that the NRC did not in fact submit an EIS before the "single adjudicatory hearing," the court took a very literal approach and said regardless of whether the NRC "supplemented" the EIS, all it was required to do under § 2243 was prepare an EIS prior to the completion of the adjudicatory hearing.¹⁴⁴ While this dealt with the specific challenge raised by NIRS in this case (that no EIS was prepared before the hearing due to the supplementation), it is unclear how the court would have come out had NIRS challenged the procedure used to "supplement" the EIS. Although NRC administrative decisions have upheld the practice of supplementing the Final EIS with records of administrative decisions, there is no case law regarding the specific

http://www.iht.com/articles/2008/02/27/business/uranium.php?page=1. The 104 nuclear power plants in the U.S. currently get about 85 percent of their enriched uranium from foreign sources, including roughly 40 percent from Russia under a program where uranium in old Russian nuclear warheads is converted to fuel for nuclear reactors. Id. The Russian warhead program is scheduled to end in 2013, and a replacement agreement would only bring in about half the enriched uranium under the current deal. Id. Furthermore, the U.S.'s only currently operational enrichment plant in Paducah, Kentucky is scheduled to be closed once USEC completes its new uranium enrichment plant in Ohio. Id. ¹⁴³ Id.

¹⁴² John Miller, Companies Race to Open New Uranium Enrichment Facilities in U.S., INTERNATIONAL HERALD TRIBUNE, Feb. 27, 2008, at 1, available at

¹⁴⁴ Nuclear Info. & Res. Serv. v. Nuclear Regulatory Comm'n, 509 F.3d 562, 568 (D.C. Cir. 2007).

question of whether it applies to § 193 of the AEA.¹⁴⁵ In any event, supplementing the EIS with information gathered in the adjudicatory decisions is a well-established practice, and a ruling that an EIS was in fact "supplemented" by an adjudicatory hearing (resulting in no EIS being prepared) would result in a circular cycle of NRC preparing a supplemental EIS every time new information was presented.¹⁴⁶

A more important part of the court's decision was its ruling regarding the "plausible strategy" requirement. The NIRS court elaborated on the requirement that a "plausible strategy" for waste disposal be submitted by the license applicant. The court in NIRS essentially adopted NRC's administrative decision precedent in determining that a "concrete plan" did not need to be presented by the applicant.¹⁴⁷ Since the Court's level of deference was substantial, the determinations made by the NRC that the waste generated by the facility was low-level, and that nearsurface disposal was acceptable became very important. These determinations regarding the actual waste disposal strategy in effect precluded the court from examining any of the actual methods for waste disposal, since the level of deference, especially with regard to technical matters, was very high with regard to agency determinations. Due to the level of deference used by the court, it could be argued that any time the "public-sector" strategy is submitted by an applicant and approved by NRC the court really will not have any room to question the actual methods and strategy used for disposal. It appears that the public-sector strategy will almost always be "plausible" with regard to disposal, and instead the reviewing court will only look to see whether the NRC reasonably concluded that a reasonable cost estimate had been submitted with regard to the disposal strategy.¹⁴⁸

Only requiring a plausible strategy, as opposed to a concrete plan, does make sense for both agencies and applicants, as requiring approval of every aspect of a plan would make it nearly impossible for a license to be granted, while also increasing the financial risk of beginning such a

¹⁴⁵ 42 U.S.C. § 2243 (2000).

¹⁴⁶ Brief for the Federal Respondents at 49, Nuclear Info. & Res. Serv., 509 F.3d 562 (Nos. 06-1301, 06-1310).

¹⁴⁷ Nuclear Info. & Res. Serv., 509 F.3d at 569.

¹⁴⁸ See Nuclear Info. & Res. Serv., 509 F.3d at 570.

project, since every aspect of the strategy could be questioned. It also allows flexibility for both the agency and applicant should circumstances change. While the flexibility of the plausible strategy helps the NRC and applicants, it also helps the environment, since it allows waste to be reclassified by the NRC and disposal plans to change should environmental concerns arise in later stages of construction or operation of the facility.

VI. CONCLUSION

The D.C. Circuit followed past NRC precedent and adopted NRC precedent in affirming the decision of the NRC to grant a 30-year license to LES to build and operate a uranium enrichment facility. Adopting records of decisions into EISs streamlines the application process, while simultaneously addressing the environmental concerns of the public. Requiring only a plausible strategy during the application process allows needed flexibility for applicants and the NRC in making decisions, while providing the needed consideration of waste disposal impacts and costs. The deferential review of agency decisions used by the courts when examining both the EIS process and waste disposal strategy follows well-established precedent and allows NRC to exercise its technical expertise. As the "nuclear renaissance" continues, the guidelines and requirements laid out in *NIRS* will be an important roadmap for both uranium enrichment plant license applicants and NRC, as well as environmental groups.

ANDREW REED