

ORAL ARGUMENT SCHEDULED FOR OCTOBER 15, 2010

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 09-1268

SHIELDALLOY METALLURGICAL CORPORATION,

Petitioner,

v.

UNITED STATES NUCLEAR REGULATORY COMMISSION

and the UNITED STATES OF AMERICA,

Respondents.

ON PETITION FOR REVIEW OF AN ORDER OF THE
U.S. NUCLEAR REGULATORY COMMISSION

FINAL BRIEF FOR THE AMICUS CURIAE STATE OF NEW JERSEY
IN SUPPORT OF AFFIRMING THE ORDER OF FEDERAL RESPONDENTS

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**CERTIFICATE AS TO PARTIES, RULINGS,
AND RELATED CASES**

Counsel for New Jersey certifies the following with respect to the parties, rulings, and related cases.

A. Parties

All parties and amici appearing in this Court are listed in the Certificate as to Parties, Rulings, and Related Cases in Shieldalloy Metallurgical Corporation's brief.

B. Rulings Under Review

Shieldalloy Metallurgical Corporation seeks review of the Nuclear Regulatory Commission's ("NRC") entry into an agreement with the State of New Jersey transferring regulatory authority to the State over certain nuclear materials. See State of New Jersey: Discontinuance of Certain Commission Regulatory Authority Within the State; Notice of Agreement Between the Nuclear Regulatory Commission and the State of New Jersey, 74 Fed. Reg. 51882 (Oct. 8, 2009).

C. Related Cases

The case on review was never previously before this Court of any other court. There are no related cases pending in any other court.

Respectfully submitted,

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Dated: July 13, 2010

By: /s/
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GLOSSARY

AEA	Atomic Energy Act of 1954, as amended
ALARA	as low as is reasonably achievable
LTC	Long Term Control
mrem	millirem
NJDEP	New Jersey Department of Environmental Protection
NRC	Nuclear Regulatory Commission
pCi/g	picocuries per gram
Shieldalloy	Shieldalloy Metallurgical Corporation
TEDE	Total Effective Dose Equivalent

PERTINENT STATUTES AND REGULATIONS

Except for the following, all applicable statutes and regulations are contained in the Addendum to Shieldalloy's opening brief.

N.J. Admin. Code § 7:28-6.1 Incorporation by reference

(a) Except as set forth in (b) and (c) below, this subchapter incorporates by reference 10 CFR Part 20, Standards for Protection Against Radiation.

. . .

(c) The following provisions of 10 CFR Part 20 are not incorporated by reference. If there is a cross reference to a Federal citation specifically entirely excluded from incorporation, then the cross referenced citation is not incorporated by virtue of the cross reference:

. . .

6. 10 CFR 20.1401, General provisions and scope;

7. 10 CFR 20.1402, Radiological criteria for unrestricted use;

8. 10 CFR 20.1403, Criteria for license termination under restricted conditions;

N.J. Admin. Code § 7:28-12.8 Radiation dose standards applicable to remediation of radioactive contamination of all real property

(a) Sites shall be remediated so that the incremental radiation dose to any person from any residual radioactive contamination at the site above that due to natural background radionuclide concentration, under either an unrestricted use remedial action, limited restricted use remedial action, or a restricted use remedial action, shall be as specified below:

1. For the sum of annual external gamma radiation dose (in effective dose equivalent) and intake dose (in committed effective dose equivalent), including the groundwater pathway: 15 millirem (0.15 milliSievert) total annual effective dose

equivalent (15 mrem/yr TEDE).

2. For radon-222: three picocuries per liter (pCi/L) of radon gas (111 Bq/m³).

(b) Radioactively contaminated ground water shall be remediated to comply with the New Jersey Groundwater Quality Standards rules, N.J.A.C. 7:9C.

(c) Radioactively contaminated surface water shall be remediated to comply with the New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B-1.14(c)6.

STATEMENT OF THE CASE

Shieldalloy has delayed the submission of an acceptable decommissioning plan over the past twelve years. As a result, Shieldalloy's radioactive waste has remained outside on native soil and unprotected from rain. New Jersey intends to use its newly acquired regulatory powers under its Agreement State status to require Shieldalloy to properly decommission its facility in a manner fully protective of public health, safety and the environment without any further lengthy delays. Shieldalloy is challenging New Jersey's Agreement State status in this appeal.

STATEMENT OF FACTS

1. **Background**

Shieldalloy ceased production activities using source material at the Newfield facility in 1998. SA429. ("SA" refers to the Supplemental Appendix). It was not until August 2001 that Shieldalloy notified the NRC of the cessation. SA430. Although the NRC's Timeliness Rule requires licensees to submit a decommissioning plan within 12 months of notifying the NRC that it has ceased production activities, 10 C.F.R. §40.42(d), Shieldalloy has yet to submit an acceptable plan to either the NRC or, now, the New Jersey Department of Environmental Protection ("NJDEP").

Since ceasing operations in 1998, Shieldalloy has submitted multiple decommissioning plans that were unacceptable to the NRC.

In August 2002, Shieldalloy submitted its first decommissioning plan to the NRC. SA434. The NRC summarily rejected this first plan. Id. In October 2005, Shieldalloy submitted a second decommissioning plan. SA435. The NRC summarily rejected this second plan. Id. On June 30, 2006, Shieldalloy submitted a third decommissioning plan to the NRC. Id.

On November 17, 2006, the NRC published a notice offering interested parties the opportunity to request a hearing on the third decommissioning plan. 71 Fed. Reg. 66986 (Nov. 17, 2006). On January 16, 2007, New Jersey filed a hearing request, which contained 17 separate "contentions" challenging Shieldalloy's on-site decommissioning plan on technical and legal grounds.¹ On March 28, 2007, the Atomic Safety and Licensing Board ("Board"), an administrative adjudicatory body of the NRC, granted New Jersey a hearing on the decommissioning plan. SA219-225. The Board found that New Jersey had raised legitimate issues concerning the potential risk to health and the environment posed by Shieldalloy's plan to cover and leave the radioactive waste on site in Newfield. SA219-221. However, because the Board found it likely that the third decommissioning plan would change substantially due to the apparent deficiencies of the third decommissioning plan, the Board stayed a hearing on the plan until after the NRC Staff conducted

¹"Contention" is used in the NRC's administrative law process rather than "count" or "allegation." See 10 C.F.R. § 2.309(a).

its technical review of the plan. SA222-225.

Indeed, because Shieldalloy's third decommissioning plan contained so many deficiencies, on July 5, 2007, the NRC Staff issued to Shieldalloy a 73-part Request for Additional Information on the plan. SA372-418.

On June 2, 2008, the Board issued a Memorandum acknowledging that Shieldalloy's delay in submitting a compliant decommissioning plan was unacceptable. SA432-435, 437-441. The Board stated that the Timeliness Rule requires a licensee to submit a decommissioning plan within 12 months of notifying the NRC of ceasing production activities. SA432 (citing 20 C.F.R. §40.42). Although production activities ceased in 1998, the Board found that Shieldalloy's failure to submit an acceptable decommissioning plan violated the spirit of the Timeliness Rule and place the safety of Newfield area residents at a continuing risk. SA439. The Board noted that the decommissioning concerns "nothing more than a slag pile. As such, we would think that the [NRC] Staff inquiry here rates relatively low in comparative complexity among the numerous site decommissioning proposals it confronts." Id.

To date, Shieldalloy has accumulated approximately 65,800 cubic meters of radioactive waste at its facility. SA361. To provide an idea of the massive quantities involved, an average sized refrigerator is approximately one cubic meter. The waste has been stored on the ground, exposed to the elements without any

cover, behind a chain-link fence. SA433, n.18. Shieldalloy's own decommissioning plan states that the waste contains thorium-232 ("Th-232"), uranium-238 ("U-238"), and radium-226 ("Ra-226"). SA359. U-238 has a half-life of over 4 billion years and Th-232 has a half-life of over 14 billion years. SA350.

Shieldalloy's own sampling results, disclosed in its fourth and most recent decommissioning plan submitted to the NRC on August 28, 2009, indicate that the facility's radioactive waste pile has up to the following concentrations of radionuclides, which greatly exceed New Jersey's soil remediation standards.

Radionuclide	Shieldalloy's Sample Results in pCi/g²	NJ's unrestricted (residential) soil remediation standard above background radioactivity (in pCi/g)³	NJ's limited restricted use (commercial) soil remediation standard above background radioactivity (in pCi/g)⁴
U-238	820	54	64
Th-232	2,120	2	3
Ra-226	1,340	3	5

²These sampling results are taken from Shieldalloy's Decommissioning Plan at SA538.

³ New Jersey's unrestricted (residential) soil remediation standard is set forth at N.J. Admin. Code § 7:28-12.9.

⁴ New Jersey's limited restricted (commercial) soil remediation standard is set forth at N.J. Admin. Code § 7:28-12.9.

The soil surrounding Shieldalloy's waste pile and the nearby Hudson Branch Creek bed has been contaminated with Th-232 and Ra-226. SA538. Shieldalloy's mean sampling result for the Hudson Branch Creek bed for Th-232⁵ was 3.88 pCi/g (including background radioactivity), SA538, which exceeds the unrestricted (residential) soil remediation standard of 2 pCi/g above background, N.J. Admin. Code § 7:28-12.9. One sample from the creek bed was 48.40 pCi/g (including background), which is over 20 times the remediation standard. SA538. Closer to the waste pile, Shieldalloy took samples at the facility's southwest fence line. Id. The mean Th-232 result for these samples was 14.10 pCi/g (including background), nearly six times the remediation standard. Id. These results also violate the limited restricted use (commercial) soil remediation standard for Th-232 of 3 pCi/g above background. See N.J. Admin. Code § 7:28-12.9.

Shieldalloy's mean sampling result of the Hudson Branch Creek bed for Ra-226⁶ was 4.48 pCi/g (including background), SA538, which also exceeds the unrestricted (residential) remediation standard of 3 pCi/g above background, N.J. Admin. Code § 7:28-12.9. One sample for Ra-226 was 77 pCi/g (including background), which is 25 times the remediation standard. Id. Closer to the waste pile, Shieldalloy

⁵The mean background concentration for Th-232 is 0.36 pCi/g. SA340.

⁶The mean background for Ra-226 is 0.5 pCi/g. SA340.

collected samples at the fence line that had a mean result of 5.31 pCi/g for Ra-226 (including background), more than 1.5 times the remediation standard. Id.

On May 23, 2006, New Jersey initiated a lengthy application process to become an Agreement State pursuant to Section 274 of the Atomic Energy Act ("AEA"). 40 N.J. Reg. 2309(a), 2310 (May 19, 2008). "Agreement State" status is New Jersey's assumption of regulatory authority over materials then regulated by the NRC, including source, certain special nuclear, and byproduct material. Ibid. New Jersey sought Agreement State status because the 2005 Energy Policy Act (42 U.S.C. §§ 13201 et seq.) would have preempted New Jersey's long-standing regulation of naturally occurring and accelerator produced radioactive material ("NARM"). JA284. Because New Jersey wished to retain such authority, it sought Agreement State status. Id.

New Jersey engaged in notice and public comments for its regulations. 40 N.J. Reg. at 2309; 40 N.J. Reg. 5196(b) (Sept. 15, 2008). The NRC engaged in notice and public comments regarding the proposed agreement with New Jersey. 74 Fed. Reg. 25283 (May 27, 2009); 74 Fed. Reg. 26739 (June 3, 2009); 74 Fed. Reg. 27572 (June 10, 2009); 74 Fed. Reg. 28728 (June 17, 2009). After an extensive review, the NRC concluded that New Jersey's Radiation Protection Regulations and regulatory program comply with NRC regulations and are sufficiently protective of the public safety and environment.

74 Fed. Reg. 51882, 51883 (Oct. 8, 2009). On September 30 2009, the NRC and New Jersey executed the agreement. Ibid.

Pursuant to New Jersey's Agreement State status, the NRC transferred 492 licenses to New Jersey for regulation, including Shieldalloy's. 40 N.J. Reg. at 2359; SA545-546. Based on the NRC's transfer of regulatory authority to New Jersey, the NRC Staff has discontinued its review of Shieldalloy's decommissioning plan and forwarded files associated with its review to New Jersey. Id.

2. Shieldalloy's Legal Challenges Before Other Forums

Since New Jersey became an Agreement State, Shieldalloy has focused its energies on filing numerous legal challenges to its obligation to properly decommission its facility in a manner fully protective of public health, safety, and the environment.

In August 2009, Shieldalloy filed an action against New Jersey in the U.S. District Court for the District of New Jersey. SA462-537. Shieldalloy alleges therein that because New Jersey's Agreement State regulations will likely require Shieldalloy to dispose of its radioactive waste off-site, New Jersey's assumption of Agreement State authority violates a 1997 bankruptcy settlement agreement and other alleged agreements between New Jersey and Shieldalloy. New Jersey filed a motion to dismiss this suit for failure to state a claim and on other grounds. A decision is pending on that motion.

On October 14, 2009, Shieldalloy filed a motion with the NRC asking it to stay the grant of Agreement State authority to New Jersey pending the outcome of Shieldalloy's various legal challenges. SA307. On January 7, 2010, the NRC denied Shieldalloy's stay request, holding that Shieldalloy failed to demonstrate both irreparable harm and that it would prevail on the merits of its legal challenges. SA318-336.

On November 18, 2009, Shieldalloy sent a letter to the NJDEP requesting a stay of the requirement to submit an acceptable decommissioning plan. SA557. The letter also requested an exemption from certain regulations. Id. On December 11, 2009, the NJDEP denied the stay but offered to extend the deadline to submit an acceptable decommissioning plan to July 31, 2010. SA305-306. The letter also denied the exemption request but provided Shieldalloy with the opportunity to request a hearing in the Office of Administrative Law on the exemption denial. Id.

On December 29, 2009, Shieldalloy filed with the NJDEP's Office of Legal Affairs a request for an adjudicatory hearing in the Office of Administrative Law on the exemption denial. SA582. The letter requested another stay of the requirement to submit a decommissioning plan. SA592. The letter also rejected the NJDEP's extension of the deadline to submit a decommissioning plan. SA593-594. On February 24, 2010, the Department granted Shieldalloy's hearing request. SA595.

Shieldalloy has also filed two appeals in the New Jersey Superior Court, Appellate Division. SA539-544, 577-580. In Docket No. A-278-09T2, Shieldalloy challenged the NJDEP's regulations that were adopted to implement its Agreement State authority. SA541. In Docket No. A-1481-09T2, Shieldalloy filed a separate Notice of Appeal challenging a NJDEP letter dated October 8, 2009, that required Shieldalloy to submit a decommissioning plan which complies with the NJDEP's regulations. SA579. Merit briefs are due shortly.

On January 29, 2010, Shieldalloy filed a motion with the New Jersey Superior Court, Appellate Division, to stay the requirement that it submit and implement a decommissioning plan under the NJDEP's regulations. SA596. The Court denied the motion. Id.

3. **Shieldalloy's Legal Challenges Before This Court**

In November 2009, Shieldalloy filed a Petition for Review in the U.S. Court of Appeals for the D.C. Circuit. Shieldalloy v. US NRC, Docket No. 09-1268 (Nov. 2, 2009). The Petition challenges the NRC's grant of Agreement State authority to New Jersey. New Jersey filed a notice of its intent to participate as an amicus curiae. On December 2, 2009, Shieldalloy filed an application in the D.C. Circuit to stay the NRC's grant of Agreement State authority to New Jersey. Following the NRC's denial of Shieldalloy's application to the NRC for a stay, Shieldalloy withdrew its stay application from the D.C. Circuit.

SUMMARY OF THE ARGUMENT

New Jersey regulations were carefully drafted to provide general ALARA and to be compatible with the NRC regulations. The NRC engaged in a long and careful review of the New Jersey regulations and also concluded that they were compatible with NRC regulations. The regulations adequately protect the public health and safety from radiation. Shieldalloy's criticisms of the New Jersey regulations are confused and misplaced.

New Jersey regulations provide for license termination under restricted release and allow a licensee to petition to use alternative remediation standards. Radiation doses under either option must be maintained below a specified regulatory limit. These regulations are compatible with NRC regulations.

New Jersey carefully considered the NRC decommissioning and remediation standards and adopted certain reasonable changes that are compatible with NRC standards. Such standards include different radiation dose limits, explicitly requiring decommissioning facilities to model far enough into the future to know the peak radiation dose, and requiring compliance with U.S. Environmental Protection Agency ("EPA") and New Jersey Ground Water and Surface Water Standards.

New Jersey regulations provide for exemptions from its standards as long as the public health and safety is protected. The NJDEP has granted Shieldalloy an administrative hearing on its

exemption request.

New Jersey regulations are generally applicable to the entire regulated community.

Shieldalloy should not complain that the transfer of authority to New Jersey disrupts its application process since Shieldalloy has failed to submit an acceptable decommissioning plan to the NRC after twelve years.

ARGUMENT

Point I

NEW JERSEY'S REGULATIONS PROVIDE FOR ALARA AND ADEQUATELY PROTECT THE PUBLIC SAFETY AND ENVIRONMENT.

New Jersey regulations were carefully drafted to provide general ALARA and to be compatible with the NRC regulations. The NRC engaged in a long and careful review of the New Jersey regulations and also concluded that they were compatible with NRC regulations. As such, the regulations adequately protect the public health and safety from radiation.

Shieldalloy asserts that ALARA should be part of the New Jersey regulations. Shieldalloy Br. at 40. But New Jersey has adopted the general ALARA requirement pursuant to 10 C.F.R. § 20.1101. N.J. Admin. Code § 7:28-6.1(a); see also NRC Br. at 46-48. New Jersey did not adopt, nor was it required to adopt, the ALARA doctrine for determining eligibility for restricted release

decommissioning under 10 C.F.R. § 20.1403. N.J. Admin. Code § 7:28-6.1(c)(8); see also NRC Br. at 46-48.

Shieldalloy also confuses the ALARA doctrine itself. In its comments to rulemaking, Shieldalloy criticized New Jersey's failure to adopt ALARA because the regulation "does not allow any increase in the remediation dose criteria even if justified on the basis of the ALARA principal [sic]." JA275. Such a confused understanding of ALARA reappears in its brief. Shieldalloy Br. at 57 n.21. However, the term "ALARA" is defined as "making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical" 10 C.F.R. § 20.1003 (emphasis added). The NJDEP responded to Shieldalloy's confused understanding of ALARA by stating that "ALARA determinations allow the use of cost as a factor for determining what level of remediation is cost effective below the standards." JA290.

Shieldalloy's comment also prompted the NJDEP to explain that the Brownfield and Contaminated Site Remediation Act ("Brownfield Act") does not allow the consideration of costs when setting standards. Id. The Brownfield Act provides the legislative declaration that "strict remediation standards are necessary to protect public health and safety and the environment; that these standards should be adopted based on the risk posed by discharged hazardous substances. . . ." N.J. Stat. Ann. § 58:10B-1.2.

In addition to arguing that ALARA allows facilities to

increase doses above the regulatory limit, Shieldalloy Br. at 57 n.21; JA275, Shieldalloy contradicts itself by asserting that ALARA may provide for the lowest possible radiation exposure, Shieldalloy Br. at 43-44. Shieldalloy asserts that under ALARA, burying the radioactive waste at its facility results in lower doses than would result from processing and shipping the waste offsite. Shieldalloy Br. at 44, n.12. Shieldalloy cites the affidavit of its President and Revision 1b of the decommissioning plan for this conclusion. Shieldalloy Br. at 44 (citing SA298). However, it is improper to make this as-applied assertion, especially when Shieldalloy has not submitted an acceptable decommissioning plan.

Furthermore, the affidavit and current decommissioning plan focus on the risks involved to present-day workers and residents rather than the future generations of residents who may live near the radioactive waste which presents a risk for billions of years into the future. The NRC criticized the decommissioning plan's previous version for failing to consider averted radioactive doses to future Newfield residents in the ALARA analysis. SA394-395.

Shieldalloy also asserts that without ALARA it may be foreclosed from using the decommissioning option that results in the lowest possible radiation exposure, Shieldalloy Br. at 44. However, New Jersey regulations provide a dose limit. N.J. Admin. Code § 7:28-12.8(a)(1). Shieldalloy is free to propose a decommissioning option that results in doses below the regulatory

limit.

In arguing that the ALARA doctrine is a crucial aspect for any decommissioning, Shieldalloy Br. at 40-41, Shieldalloy is actually just seeking less stringent standards so it may dispose its radioactive waste on-site at its facility. But New Jersey regulations were determined to be compatible with the NRC regulations. JA67-68.

In any event, the ALARA doctrine is not a crucial aspect for a decommissioning facility containing long-lived radioactive waste. The ALARA doctrine is a cost-benefit analysis used to determine whether reductions in radiation below the regulatory limit are appropriate. 62 Fed. Reg. 39058, 39075 (July 21, 1997); NRC Br. at 19, 47-50. The NRC has stated that the ALARA doctrine is not appropriate for regulating the Yucca Mountain nuclear waste facility. 66 Fed. Reg. 55732, 55751 (December 3, 2001) (Issue #4). The NRC stated: "The application of ALARA to the achievement of the postclosure performance objective would involve considerations far more complicated than those evaluated for operations. The reasonableness of further reduction of potential doses would need to evaluate benefits and impacts that span many generations" Id. The NRC explained that it would be too speculative to consider "costs incurred today versus a reduction of potential doses thousands of years in the future." Id. The NRC decided that it would use a lower dose limit of 15 mrem per year (instead of the

25 mrem per year standard in 10 C.F.R. §§ 20.1402, 20.1403) and not utilize ALARA. Id. (Issue #5). New Jersey regulations also provide for a dose limit of 15 mrem per year and do not utilize ALARA for determining eligibility for restricted release decommissioning under 10 C.F.R. § 20.1403. N.J. Admin. Code §§ 7:28-6.1(c)(8), - 12.8(a)(1); see also NRC Br. at 46-48. Whereas the nuclear waste proposed for Yucca Mountain will remain a hazard for 1 million years, Nuclear Energy Inst. v. Environmental Prot. Agency, 373 F.3d 1251, 1273 (D.C. Cir. 2004), Shieldalloy's radioactive waste contains U-238 and Th-232 which have half-lives of 14 billion years and 4 billion years respectively. SA359, 538, 350.

In sum, Shieldalloy's criticism of New Jersey regulations is misplaced because New Jersey has adopted the general ALARA requirement under 10 C.F.R. § 20.1101. N.J. Admin. Code § 7:28-6.1(a); see also NRC Br. at 46-48. New Jersey's response to public comments was reasonable in light of Shieldalloy's confusion on ALARA.

Point II

NEW JERSEY REGULATIONS PROVIDE FOR LICENSE TERMINATION UNDER RESTRICTED RELEASE.

New Jersey regulations provide for license termination under restricted release and allow a licensee to petition to use alternative remediation standards. N.J. Admin. Code § 7:28-12.11.

However, radiation doses under either option must be maintained below a specified regulatory limit. N.J. Admin. Code §§ 7:28-12.8(a)(1); -12.11(a)(1), (e). Shieldalloy's real complaint is that it does not wish to comply with standards that may prevent Shieldalloy's on-site disposal plan.

Shieldalloy argues that the NRC's acceptance of New Jersey's regulations was arbitrary and capricious because New Jersey does not provide for license termination under restricted release. Shieldalloy Br. at 47. However, New Jersey's regulations do provide for license termination under restricted release. N.J. Admin. Code § 7:28-12.8(a). A licensee may also petition to use alternative remediation standards. N.J. Admin. Code § 7:28-12.11.

Shieldalloy's real complaint is that New Jersey's regulations are different from the NRC's, which may make approval of its on-site disposal plan more difficult. See Shieldalloy Br. at 48-49 (arguing that New Jersey regulations would require Shieldalloy to remove its radioactive waste from its facility). Under New Jersey's restricted release option, the facility must still meet the 15 mrem per year standard with controls in place and 100 mrem per year standard if all controls fail. N.J. Admin. Code §§ 7:28-12.8(a)(1); -12.11(a)(1), (e). In contrast, the NRC's restricted release option requires a facility to meet the 25 mrem per year standard and 100 mrem per year (500 mrem per year under certain circumstances) if all controls fail. 10 C.F.R. § 20.1403(b), (e). The NRC

nevertheless found New Jersey's regulations to be compatible with the NRC regulations. JA67-68.

Point III

NEW JERSEY CAREFULLY CONSIDERED THE NRC REGULATIONS AND PROMULGATED CERTAIN CHANGES THAT WERE REASONABLE AND PROTECTIVE OF THE PUBLIC SAFETY AND ENVIRONMENT.

New Jersey carefully considered the NRC decommissioning and remediation standards and adopted certain reasonable changes that are compatible with NRC standards. Such standards include different radiation dose limits, explicitly requiring decommissioning facilities to model far enough into the future to know the peak radiation dose, and requiring compliance with U.S. Environmental Protection Agency ("EPA") and New Jersey Ground Water and Surface Water Standards.

Shieldalloy complains that New Jersey regulations set a different dose standard of 15 mrem per year (instead of the NRC's 25 mrem per year). Shieldalloy Br. at 52. Yet Shieldalloy also complains that, without ALARA, it may be foreclosed from using the decommissioning option that results in the lowest possible radiation exposure. Shieldalloy Br. at 44. Shieldalloy cannot complain that it may be precluded from the decommissioning option that provides the lowest possible radiation dose exposure yet also challenge the lower dose limits.

In any event, as discussed in the previous section, New Jersey has adopted the general ALARA requirement. The NRC found New Jersey's standards to be compatible with the NRC decommissioning standards. JA67-68. Also, New Jersey adopted the same radiation dose limit that the NRC has adopted for the Yucca Mountain nuclear waste facility. See 66 Fed. Reg. at 55751.

Shieldalloy challenges the New Jersey requirement that requires dose modeling beyond 1,000 years. Shieldalloy Br. at 52. Shieldalloy quotes the NRC's statement that modeling beyond this time-period is "virtually meaningless." Shieldalloy Br. at 54 (citing JA50). But Shieldalloy fails to quote the first part of the sentence, which was only referring to cases where "large quantities of long-lived radioactive material" are not involved. JA50. Because large quantities of long-lived radioactive waste are involved at Shieldalloy's facility, SA359, 538, 350, modeling beyond 1,000 years is appropriate.

Shieldalloy complains that it is subject to the New Jersey Ground Water and Surface Water Standards. Shieldalloy Brf. at 55. However, the NJDEP explained that these standards are meant to protect New Jersey's waters. JA288. Such standards are necessary to comply with federal standards for ground, surface, and drinking waters. The Federal Clean Water Act requires states' ground and surface water standards to be no less stringent than the EPA standards. 33 U.S.C. §§ 1313, 1370; see also Jeffrey M. Gaba,

Federal Supervision of State Water Quality Standards Under the Clean Water Act, 36 Vand. L. Rev. 1167, 1171-76 (Oct. 1983). The radionuclide standards pertain to uranium, radium, gross alpha, and gross beta.⁷ 40 C.F.R. §§ pt. 122 App. D, 130.3, 130.7; N.J. Admin. Code § 7:9B-1.14(d)(6) (adopting the Safe Drinking Water standards); N.J. Admin. Code § 7:9C-1, App. (adopting the Safe Drinking Water standards). The Federal Clean Water Act requires the EPA to establish maximum drinking water contaminant levels and requires states to adopt drinking water standards that are no less stringent than EPA standards. 42 U.S.C. §§ 300g-1, 300g-2. Those standards pertain to gross alpha, gross beta, uranium and radium radionuclides. 40 C.F.R. §141.66(e); N.J. Admin. Code § 7:10-5.2(a)(10) (adopting the EPA standards).

Thus, it was reasonable for the NJDEP to incorporate the EPA's gross alpha, gross beta, uranium and radium radionuclide maximum contamination limits.

Point IV

NEW JERSEY REGULATIONS PROVIDE FOR EXEMPTIONS
AND THE NJDEP HAS GRANTED SHIELDALLOY AN
ADMINISTRATIVE HEARING ON ITS EXEMPTION
REQUEST.

New Jersey regulations provide for exemptions from its

⁷ Gross alpha and gross beta are screening methods that indicate the presence of alpha and beta emitting radionuclides.

standards as long as the public health and safety is protected. N.J. Admin. Code § 7:28-2.8 provides for exemptions in cases where there is "a showing of hardship or compelling need" as long as "such exemption will not result in any exposure to radiation in excess of the limits permitted by [N.J. Admin. Code §] 7:28-6, Standards for Protection Against Radiation." The NJDEP has granted Shieldalloy an administrative hearing on its exemption request. SA581-594, 595.

Shieldalloy complains that New Jersey's regulations do not provide for a meaningful opportunity for granting exemptions. Shieldalloy Br. at 56. But, as just discussed, N.J. Admin. Code § 7:28-2.8 provides for such exemptions.

Shieldalloy's real objection is that its current decommissioning plan may not qualify for any exemptions. Shieldalloy is unhappy with the New Jersey regulations that do not provide exemptions to the radiation dose limits. Shieldalloy Br. at 57 n.21. But the NRC concluded that New Jersey's regulations are compatible with the NRC regulations. JA67-68. These requirements are meant to protect the public safety and environment. JA288.

Shieldalloy has requested a hearing on the NJDEP's exemption denial, and the NJDEP has granted the hearing request. NJxxx (Shieldalloy letter dated Dec. 29, 2009 and Office of Legal Affairs letter dated Feb. 24, 2010). The hearing process demonstrates that New Jersey provides a meaningful opportunity for exemptions.

Point V

NEW JERSEY'S REGULATIONS ARE GENERALLY
APPLICABLE TO THE ENTIRE REGULATED COMMUNITY.

Shieldalloy complains that the New Jersey regulations unfairly target its facility. Shieldalloy Br. at 59. But the New Jersey regulations are generally applicable to the "remediation of real property contaminated by radioactive materials." N.J. Admin. Code § 7:28-12.1. The remediation standards set forth at N.J. Admin. Code § 7:28-12.8 apply uniformly to all "sites" contaminated by radioactive materials.

Point VI

THE TRANSFER OF AUTHORITY TO NEW JERSEY DOES
NOT DISRUPT THE LICENSE APPLICATION PROCESS
BECAUSE SHIELDALLOY FAILED TO SUBMIT AN
ACCEPTABLE DECOMMISSIONING PLAN IN A TIMELY
MANNER.

Shieldalloy complains that the transfer of authority to New Jersey disrupts its application process. Shieldalloy Br. at 61. However, Shieldalloy's failure to submit an acceptable decommissioning plan to the NRC after twelve years makes Shieldalloy's disruption complaint preposterous. SA429-435, 437-441. It is unreasonable for the NRC to exempt Shieldalloy's single facility from New Jersey's jurisdiction simply because Shieldalloy has delayed complying with its obligations under the NRC regulations.

Shieldalloy ceased production activities using source material at the Newfield facility in 1998. JA429. In August 2001, Shieldalloy notified the NRC of the cessation. JA430. Although the NRC's Timeliness Rule requires licensees to submit a decommissioning plan within 12 months of notifying the NRC that it has ceased production activities, 10 C.F.R. §40.42(d), Shieldalloy has yet to submit an acceptable plan.

Nor was Shieldalloy close to receiving approval for its onsite disposal plan. After Shieldalloy's third attempt at submitting a decommissioning plan, the NRC issued a 73-part Request for Additional Information on the third decommissioning plan. This resulted in Shieldalloy submitting a fourth decommissioning plan. Because the NRC has ceased its review of Shieldalloy's decommissioning plans, there is no evidence that the NRC would have approved this plan, especially after all of the previous unacceptable plans. It was Shieldalloy's choice to continue to pursue one failed on-site disposal plan after another for a non-complex decommissioning. See SA439 (describing the Shieldalloy decommissioning as "relatively low in comparative complexity" to other decommissioning sites).

Many significant legal obstacles stood in Shieldalloy's way to obtaining approval for the onsite disposal plan prior to the Agreement State. The NRC had not promulgated the required regulations to approve Shieldalloy's decommissioning plan. Although

Shieldalloy's decommissioning is regulated under the NRC's License Termination Rule, 10 C.F.R. Part 20 Subpart E, Shieldalloy's decommissioning plan does not propose to terminate its license upon decommissioning. SA258-259. Rather, it proposes an amendment to its current license to a Long Term Control license ("LTC license"). Id. The site would remain under the LTC license for 1,000 years. Id.

First, the NRC would have been required to alter the License Termination Rule to allow decommissioning without actually terminating the license. See, e.g., 20 C.F.R. § 20.1403 (defining the term "Decommission" and providing the requirement of terminating the license); "Radiological Criteria for License Termination," 10 C.F.R. Part 20 Subpart E (emphasis added).

Second, the NRC would have been required to promulgate a rule or regulation that sets forth the terms and conditions of the LTC license and the information required to be set forth in the license application. See 42 U.S.C. §§ 2232(a), 2233. As just mentioned, Shieldalloy's decommissioning plan assumes that the NRC would amend its current license to a LTC license. SA258-259. The NRC so far has only provided the LTC license in a guidance document. NUREG-1757 Vol. 1 page 17-65 (available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1757/>). Currently, the NRC regulations only provide licenses for the

active use and possession of source material.⁸ 10 C.F.R. § 40.1(a). The regulations in this part also provide licenses for the disposal and long-term care and custody of byproduct⁹ and residual radioactive material.¹⁰ 10 C.F.R. § 40.1(a). However, the regulations in this part do not provide licenses for the disposal or long-term care and custody of source material. Shieldalloy's radioactive waste is considered source material. SA249.

NRC Commissioner Gregory B. Jaczko conceded in his dissent of an NRC Memorandum and Order that additional regulations were required before the NRC approves Shieldalloy's proposed on-site disposal plan. SA450-452. The majority did not deny that additional regulations were required but instead held that such issues were

⁸Source material is defined as uranium or thorium or ores containing one or more of the foregoing materials above certain concentrations. 42 U.S.C. § 2014(z). Shieldalloy's radioactive waste is considered source material since it contains uranium and thorium. SA249.

⁹Byproduct material is defined in this Part as "the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes." 10 C.F.R. § 40.4. Shieldalloy's radioactive waste is not considered byproduct material because it was processed for its ferrocolumbium, not for its source material. SA249-250.

¹⁰Residual radioactive material is defined in this Part as waste subject to the Uranium Mill Tailings Radiation Control Act of 1978 ("UMTRCA"). 10 C.F.R. § 40.4. UMTRCA only applies to processing sites that sold uranium to the Federal government prior to January 1, 1971. 42 U.S.C. §§ 7911(6)(A), 7912(a). Shieldalloy did not extract uranium from ore at its Newfield site, but rather produced ferrocolumbium. SA250.

pending before the Atomic Safety and Licensing Board and the Board should render a decision before the Commission decides. SA449.

An additional reason the NRC transferred authority over Shieldalloy along with all other source, byproduct, and special nuclear material licensees is that the AEA disfavors dual regulation by different governmental entities. Illinois v. Kerr-McGee Chem. Corp., 677 F.2d 571, 580 (7th Cir. 1982). In Kerr-McGee, the court referenced the Senate report included in the legislative history to the AEA that recognized "the dangers of conflicting, overlapping, and inconsistent standards in different jurisdictions" Id. The court stated that the intent of the statute was to have radiation hazards regulated and licensed either by the NRC, or by the State, but not by both. Id. at 581.

Shieldalloy cannot legitimately complain of costs incurred in seeking approval of its on-site disposal plans. See Shieldalloy Br. at 62, n.23. Shieldalloy chose to pursue four such plans even though the first and second plans were summarily rejected by the NRC, SA435, the Board found that New Jersey's contentions challenging the third proposal on technical grounds had merit, SA221-224, and the third proposal was greeted with 73 separate requests for additional information from the NRC, SA372-418.

CONCLUSION

For the reasons set forth above, the petition for review should be denied.

Respectfully submitted,

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Dated: July 13, 2010

By: /s/
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CERTIFICATE OF LENGTH OF BRIEF

I hereby certify that the foregoing Brief for Amicus Curiae State of New Jersey contains 5,356 words, excluding the Table of Contents, Table of Authorities, Pertinent Statutes and Regulations and Certificates of Counsel, as counted by the Word Perfect 12 program.

/S/

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August 17, 2010

CERTIFICATE OF SERVICE

I hereby certify that on August 17, 2010, an electronic copy of the foregoing Brief for the Amicus Curiae State of New Jersey was filed with the Clerk of the Court and served upon the following counsel of record in the case through the CM/ECF System:

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