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

SHIELDALLOY METALLURGICAL CORPORATION,
Petitioner,

v.

**UNITED STATES NUCLEAR REGULATORY COMMISSION AND
THE UNITED STATES OF AMERICA,**

Respondents.

=====

ON PETITION FOR REVIEW OF A FINAL ORDER BY
THE UNITED STATES NUCLEAR REGULATORY COMMISSION

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**REPLY BRIEF OF PETITIONER SHIELDALLOY
METALLURGICAL CORPORATION**

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TABLE OF CONTENTS

	<u>Page</u>
TABLE OF AUTHORITIES	ii
GLOSSARY	vi
I. INTRODUCTION	1
II. SUPPLEMENTARY STATEMENT OF FACTS	1
III. SUMMARY OF THE ARGUMENT	2
IV. STANDARD OF REVIEW	5
V. THE NRC OBFUSCATES THE MEANING OF SECTION 20.1403(a).	7
A. Introduction	7
B. The NRC fails to explain how a licensee can demonstrate that the residual radioactivity levels achieved through restricted release conditions are ALARA without comparing them to those resulting from unrestricted release options	9
C. ALARA is defined in terms of minimizing “exposures to radiation,” not “residual levels”	10
D. The NRC erroneously focuses on “cost-benefit” considerations rather than dose reductions	12
VI. THE NRC’S REJECTION OF DOSE COMPARISONS BETWEEN RESTRICTED AND UNRESTRICTED RELEASE DECOMMISSIONING IS INCONSISTENT WITH THE LANGUAGE AND PURPOSE OF THE REGULATION AND THE ALARA PRINCIPLE	14
A. The Section 20.1403(a) ALARA analysis necessarily requires comparing doses from all available decommissioning alternatives	14
B. NRC’s position would lead to outcomes which are antithetical to the AEA’s mandate to ensure adequate protection of public health and safety	16

VII. NRC’S INTERPRETATION OF SECTION 20.1403(a) IS A SIGNIFICANT REVERSAL FROM PRIOR PRACTICE17

A. Until this litigation, the NRC never identified the type of analysis it now claims is required17

B. The NRC’s attempt to brush aside these inconsistencies as insignificant and non-binding is unavailing20

VIII. THE NEW JERSEY PROGRAM IS FUNDAMENTALLY INCOMPATIBLE WITH THE NRC’S DECOMMISSIONING SCHEME IN KEY RESPECTS24

A. It is undisputed that the New Jersey Program fails to apply the ALARA principle to decommissioning activities24

B. The New Jersey Program’s refusal to permit license termination under a restricted release approach is inconsistent with the NRC’s decommissioning scheme25

C. The shortcomings in the New Jersey Program render it incompatible with the NRC’s program.....27

IX. CONCLUSION27

TABLE OF AUTHORITIES

<u>Cases</u>	<u>Page</u>
<i>Auer v. Robbins</i> , 519 U.S. 452 (1997)	7
<i>Bowen v. Georgetown Univ. Hosp.</i> , 488 U.S. 204 (1988)	7
* <i>Christopher v. SmithKline Beecham Corp.</i> , 132 S. Ct. 2156 (2012)	6,7,17
<i>Dillmon v. NTSB</i> , 588 F.3d 1085 (D.C. Cir. 2009)	6
<i>FCC v. Fox Television Stations, Inc.</i> , 556 U.S. 502 (2009)	21,23
<i>Garvey v. NTSB</i> , 190 F.3d 571 (D.C. Cir. 1999)	5-6
<i>Heckler v. Cmty. Health Servs. of Crawford Cnty.</i> , 467 U.S. 51 (1984).....	23
<i>Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.</i> , 545 U.S. 967 (2005)	6
* <i>Ramaprakash v. FAA</i> , 346 F.3d 1121 (D.C. Cir. 2003)	6,21
* <i>Shieldalloy Metallurgical Corp. v. NRC</i> , 624 F.3d 489 (D.C. Cir. 2010)	2,6,21,27
* <i>Shieldalloy Metallurgical Corp. v. NRC</i> , 707 F.3d 371 (D.C. Cir. 2013).....	2,6,9,18,21,27
<i>Shieldalloy Metallurgical Corp.</i> (Decommissioning of the Newfield, New Jersey Site), CLI-13-6, 78 N.R.C. 155 (2013).....	21
* <i>Smiley v. Citibank (South Dakota), N.A.</i> , 517 U.S. 735 (1996).....	23
* <i>Thomas Jefferson Univ. v. Shalala</i> , 512 U.S. 504 (1994)	5,6,17

Authorities upon which Petitioner chiefly relies are marked with asterisks.

Statutes, Regulations & Other Documents

* 5 U.S.C. § 706(2)(A) (2006).....	5
42 U.S.C. § 2012(d) (2006)	16
* 42 U.S.C. § 2201(b) (2006)	16
* 10 C.F.R. Part 20, Subpart E [§§ 20.1401-06] (2009).....	3,12,24
10 C.F.R. § 20.1003 (2009)	10,24
* 10 C.F.R. § 20.1101(b) (2009)	10,24
10 C.F.R. § 20.1402 (2009)	7,11,13,17,24
* 10 C.F.R. § 20.1403 (2009)	7,17,23
* 10 C.F.R. § 20.1403(a) (2009).....	2,3,7,8,9,10,11-12,13,14,15,16,17,18,20,21,22
* 10 C.F.R. § 40.42(j)(1) (2009).....	26
N.J. Admin. Code § 7:28-12.8	26
N.J. Admin. Code § 7:28-12.8(a)(1)	25
N.J. Admin. Code § 7:28-12.9	25
N.J. Admin. Code § 7:28-58.1(a).....	26
N.J. Admin. Code § 7:28-58.1(c).....	26
56 Fed. Reg. 23,360 (May 21, 1991).....	14
* 62 Fed. Reg. 39,058 (July 21, 1997).....	9,10,11,15,16

Applicable statutes, regulations and rules which were not reproduced in the Addendum to Shieldalloy’s Opening Brief are reproduced in the Supplemental Addendum included with this Reply Brief.

GLOSSARY OF TERMS AND ABBREVIATIONS

AEA	Atomic Energy Act of 1954, as amended
ALARA	As Low As Reasonably Achievable
Commission	United States Nuclear Regulatory Commission
DP	Decommissioning Plan for the Facility
Facility	The industrial facility owned by Shieldalloy Metallurgical Corporation located in Newfield, New Jersey
LTR	License Termination Rule, Subpart E to 10 C.F.R. Part 20 (10 C.F.R. §§ 20.1401-06)
mrem	Millirem
NJDEP	New Jersey Department of Environmental Protection
NJ Program	<i>See</i> Program
NRC	United States Nuclear Regulatory Commission
Program	New Jersey's Radiation Protection Program
RAI	Request for Additional Information issued by the NRC Staff

Shieldalloy	Shieldalloy Metallurgical Corporation
SMC	Shieldalloy Metallurgical Corporation
Staff	United States Nuclear Regulatory Commission staff
State	State of New Jersey
TEDE	Total Effective Dose Equivalent

I. INTRODUCTION

In this Reply, Petitioner Shieldalloy Metallurgical Corporation (“Shieldalloy” or “SMC”) responds to the arguments raised by the U.S. Nuclear Regulatory Commission (“NRC”) and the State of New Jersey (“New Jersey” or “NJ”) in their respective responses to Shieldalloy’s Opening Brief.¹ The NRC and New Jersey fail to provide any valid justification for the NRC’s reinstated transfer of regulatory authority over Shieldalloy’s Newfield, NJ facility (“Facility”) after a second remand by this Court. Therefore, the transfer should be nullified.

II. SUPPLEMENTARY STATEMENT OF FACTS

While the parties disagree on important aspects of the statutory and regulatory background discussed in the NRC Brief at 4-18, there is no major disagreement between the NRC and Shieldalloy regarding the relevant facts in this matter, as presented in Shieldalloy’s Opening Brief.² Accordingly, the factual

¹ Brief for the Federal Respondents (April 11, 2014) (“NRC Brief”); Brief for Intervenor (May 9, 2014) (“NJ Brief”). Shieldalloy’s Opening Brief was filed on February 4, 2014.

² *Compare* Shieldalloy’s Opening Brief at 13-19 *with* NRC Brief at 4-6 & 18-34, except that the NRC incorrectly asserts that NJ’s license termination program makes restricted release only “more difficult to obtain.” NRC Brief at 19-20. In reality, as discussed in Section VIII below, the NJ Program makes license termination under a restricted release approach impossible to attain.

The “facts” alleged by New Jersey (NJ Brief at 4-17) are either incorrect, irrelevant or repetitive of those discussed by Shieldalloy and the NRC.

summaries contained in this Court's opinions in *Shieldalloy Metallurgical Corp. v. NRC*, 624 F.3d 489 (D.C. Cir. 2010) ("*Shieldalloy I*") and *Shieldalloy Metallurgical Corp. v. NRC*, 707 F.3d 371 (D.C. Cir. 2013) ("*Shieldalloy II*"), and in *Shieldalloy's* Opening Brief, require no supplementation.³

III. SUMMARY OF THE ARGUMENT

The NRC's interpretation of 10 C.F.R. § 20.1403(a) rests on three arguments: (1) the regulation calls for As Low As Reasonably Achievable ("ALARA") comparisons among only unrestricted release alternatives; (2) the focus of the comparisons is on "residual levels" of radioactivity, not radiation doses to the public; and (3) the basis for these comparisons is cost-effectiveness, not dose reduction potential. All three arguments are invalid. Moreover, throughout its Brief, the NRC makes cost-benefit comparisons between

³ *Shieldalloy* need not comment on the NRC's gloss on the previous Court decisions in this matter (NRC Brief at 20-26) because those decisions speak for themselves. However, the NRC mischaracterizes the Court's remand in *Shieldalloy II* as being based "on the ground that NRC had not provided a textual 'exegesis' demonstrating that its asserted regulatory preference for unrestricted release is grounded in the regulatory text." *Id.* at 3. Nowhere did the Court say that it based its remand on the NRC's failure to support its asserted preference for unrestricted release decommissioning. Rather, the Court was understandably baffled by "the NRC's current interpretation of § 20.1403(a). The Commission's order and its brief do not quote from the provision or make any effort to engage with its text. Instead, they state in bald and conclusory fashion that the regulation does not mean what *Shieldalloy* says it means. Unlike the NRC, we do not find the meaning of § 20.1403(a) self-evident." *Shieldalloy II*, 707 F.3d at 379.

unrestricted and restricted release alternatives. Yet, the NRC does not explain why, if only various unrestricted release methods are germane to the Section 20.1403(a) evaluation, it is necessary, or even relevant, to compare each of these against a restricted release method.

The NRC's rejection of comparisons between doses achieved through restricted and unrestricted release decommissioning alternatives is also inconsistent with the language of the regulations and the purpose of the ALARA principle. Accepting the NRC's position would lead to outcomes which violate the mandate of the Atomic Energy Act of 1954, 42 U.S.C. § 2011 *et seq.* ("AEA"), that the NRC ensure adequate protection of public health and safety.

The NRC can cite no previous agency statements that support its newly minted interpretation of 10 C.F.R. § 20.1403(a). In none of its issuances prior to, in, or following, the publication of the License Termination Rule ("LTR"), 10 C.F.R. §§ 20.1401-06, did the NRC even hint that an applicant wishing to utilize a restricted release decommissioning option would need to perform an ALARA analysis of only the viable *unrestricted* release alternatives, to the exclusion of viable *restricted* release options. On the other hand, there is overwhelming evidence that the NRC not only accepted, but expected, that a decommissioning plan would include ALARA analyses comparing the costs and benefits of restricted

versus unrestricted release decommissioning options. That evidence takes the form, *inter alia*, of guidance in NUREG-1757 and numerous exchanges between the NRC and SMC.

Faced with insuperable difficulties in reconciling previous interpretations with its current reading of the regulation, the NRC dismisses any inconsistent prior statements as being superseded by the agency's current position. However, official statements of position by an agency to a licensee or applicant, particularly when repeated over long periods of time and relied upon by the regulated entity, may be changed only prospectively and then only when accompanied by a reasonable effort to accommodate such reliance. Neither has been done here.

An agency must articulate a satisfactory explanation for its actions if they are to survive review under the "arbitrary or capricious" standard. The agency must also adequately address legitimate objections and explain departures from prior practices and interpretations. *Post hoc*, inconsistent justifications of agency actions should be rejected. An agency's interpretation of its regulations is to be accorded no deference if the interpretation is unreasonable.

The NRC has twice reinstated the transfer of regulatory authority over SMC's Facility with full knowledge that NJ's Program does not apply the ALARA principle to license termination activities and precludes license termination based

on on-site disposal of radioactive materials. The NRC has failed to provide a satisfactory explanation for transferring authority over the Facility to New Jersey notwithstanding the NJ Program's incompatibility with the NRC regulations. That incompatibility compels the conclusion that the NRC's reinstatement of the transfer of regulatory authority to New Jersey was arbitrary and capricious.

ARGUMENT

IV. STANDARD OF REVIEW

An agency action shall not be upheld under the Administrative Procedure Act if it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A) (2006). Under this standard of review, an agency's interpretation of its own regulation does not warrant deference if that interpretation is unreasonable. This standard is consistent with that announced in cases cited in the NRC Brief, such as *Thomas Jefferson University v. 512*, 512 U.S. 504, 512 (1994), under which a court will not defer to an agency interpretation that is “plainly erroneous or inconsistent with the regulation” or if “an alternative reading is compelled by the regulation's plain language or by other indications of the [agency's] intent at the time of the regulation's promulgation.” 512 U.S. at 512 (quotations and citations omitted); *accord Garvey v. NTSB*, 190 F.3d 571, 580 (D.C. Cir. 1999) (“Deference, of course, does not mean blind obedience. The agency's interpretation still must not be plainly erroneous or

inconsistent with the regulation it is interpreting”) (quotation and citation omitted); *see also Shieldalloy II*, 707 F. 3d at 382 (“[w]here the agency writes an opaque and ambiguous rule and then by fiat proclaims its meaning without any effort to consider its text or dispel its mysteries, the agency’s insistence on deference is misplaced”).

In addition, “an agency’s interpretation of a statute or regulation that conflicts with a prior interpretation is entitled to considerably less deference than a consistently held agency view.” *Shalala*, 512 U.S. at 515 (quotations and citation omitted); *see also Christopher v. SmithKline Beecham*, 132 S. Ct. 2156, 2166 (2012) (“deference is likewise unwarranted when there is reason to suspect that the agency’s interpretation does not reflect the agency’s fair and considered judgment on the matter in question. This might occur when the agency’s interpretation conflicts with a prior interpretation”) (quotations and citations omitted). Indeed, an agency is obligated to explain any important changes of policy or legal interpretation. *Ramaprakash v. FAA*, 346 F.3d 1121, 1124 (D.C. Cir. 2003); *Shieldalloy I*, 624 F.3d at 493; *Shieldalloy II*, 707 F. 3d at 381-82. Such explanation must be made by a reasoned analysis which ensures that the agency’s past policies are being deliberately changed and not casually ignored. *Dillmon v. NTSB*, 588 F.3d 1085, 1089-90 (D.C. Cir. 2009); *see also Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005). No

deference is warranted for *post hoc* rationalizations advanced by an agency to defend past actions against attack. *SmithKline Beecham Corp.*, 132 S. Ct. at 2166-67 (citing *Auer v. Robbins*, 519 U.S. 452, 462 (1997); *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 212 (1988)).

V. THE NRC OBFUSCATES THE MEANING OF SECTION 20.1403(a)

A. Introduction

In order to permit the decommissioning of NRC-licensed facilities by on-site stabilization and disposal of radioactive materials (i.e., restricted release), rather than by site decontamination and off-site disposal of the materials (i.e., unrestricted release), the LTR affirms that “[a] site will be considered acceptable for license termination under restricted conditions” if specified criteria are met. 10 C.F.R. § 20.1403. One criterion, and the one of interest here, is that a licensee proposing a restricted release decommissioning plan shall “demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402 [governing unrestricted release] . . . were not being made because the residual levels associated with restricted conditions are ALARA.” *Id.* § 20.1403(a).⁴ The

⁴ The NRC repeatedly refers to this criterion as an “eligibility” test. *See, e.g.*, NRC Brief at 12-13. Nowhere in the LTR did the agency describe restricted release as being subject to an eligibility test. Acceptance of either restricted or unrestricted release alternatives is subject to specified requirements, as set forth in Sections 20.1402 and 20.1403.

NRC acknowledges, as it must, that the LTR incorporates the ALARA principle in order to require that decommissioning activities “reduc[e] doses to the public as far below the dose limit for adequate protection as is cost-beneficial.” NRC Brief at 57 (emphasis added). Nevertheless, under the NRC’s view, “[t]he inquiry postulated by § 20.1403(a) has nothing to do with the dose that can be achieved through restricted release; it is simply about the cost-effectiveness of unrestricted-release decommissioning options.” *Id.* at 35. The NRC claims that the ALARA analysis under this Section is targeted at determining whether a licensee pursuing restricted release is proposing “*residual levels of radioactivity*” that are “as low as is reasonably achievable,” and that accordingly, “the dose level that might be achieved through restricted release is simply not germane to the § 20.1403(a) inquiry.” *Id.* at 36 (emphasis in original).

Thus, the NRC’s interpretation of Section 20.1403(a) rests on three arguments: (1) the regulation calls for ALARA comparisons only among unrestricted release alternatives; (2) the focus of the comparisons is on “residual levels” of radioactivity, not radiation doses to the public; and (3) the basis for these comparisons is cost-effectiveness, not dose reduction potential. All three arguments are patently invalid. The NRC’s “exegesis” suffers from interpretive flaws and logical inconsistencies similar to those this Court questioned in

Shieldalloy II. The NRC is attempting to justify a litigation position that it has backed into, rather than rationally explaining the text of its own regulations.

The NRC fails to explain how a licensee can demonstrate that the residual radioactivity levels achieved through restricted release conditions are ALARA without comparing them to those resulting from unrestricted release options

The NRC argues that Section 20.1403(a) only contemplates an ALARA analysis of unrestricted release alternatives. *See* NRC Brief at 45. In particular, the NRC disagrees with *Shieldalloy*'s assertion that the reference in the LTR Statement of Considerations to "an ALARA analysis of the risks and benefits of all viable alternatives" (R2 (*Final Rule, Radiological Criteria for License Termination*), 62 Fed. Reg. 39,058, 39,069 (July 21, 1997), JA77) calls for a comparative evaluation of doses achieved through unrestricted and restricted release decommissioning options. Instead, the NRC claims that "all viable alternatives" refers only to those alternatives "by which decommissioning through *unrestricted* release can be obtained." NRC Brief at 44 (emphasis in original). The NRC, however, fails to explain what outcome would be obtained from such an ALARA analysis. Limiting the ALARA analysis to "viable" unrestricted release alternatives will always result in finding one such alternative that is the most cost-effective from an ALARA standpoint. The NRC does not explain how identifying the most cost-effective unrestricted release alternative could conceivably lead to

selecting a restricted release method if the restricted release method is never considered. The NRC's reading makes no sense; if applied, it would disqualify any restricted release proposal – one of the reasons for the existence of the LTR rule.

C. **ALARA is defined in terms of minimizing “exposures to radiation,” not “residual levels”**

As the NRC construes it, the Section 20.1403(a) analysis is solely concerned with whether “residual levels of radioactivity proposed to be left in place – not the dose to the public – are as low as reasonably achievable.” NRC Brief at 58. This interpretation, however, violates the essential goal of the ALARA principle, as described throughout the NRC's radiation protection program: reducing “*exposures to radiation* as far below the dose limits in [10 C.F.R. Part 20] as is practical” 10 C.F.R. § 20.1003 (emphasis added); *see also id.* § 20.1101(b) (requiring licensees to use “procedures and engineering controls based upon sound radiation protection principles to achieve . . . *doses* to members of the public that are . . . ALARA”) (emphasis added). The same objective holds true in the decommissioning context, where the LTR employs the ALARA requirement as a regulatory tool aimed at “achievement of *exposures* that are ALARA.” 62 Fed. Reg. at 39,065, JA73 (emphasis added). In light of the consistently applied focus of the ALARA principle on *dose reduction*, it strains credulity for the NRC to now claim that, for purposes of Section 20.1403(a), ALARA focuses on only the

quantity of radioactive material left at the site, rather than the doses to the public resulting from the decommissioning process.

The NRC accuses Shieldalloy of misreading Section 20.1403(a) by equating “residual levels” of radioactivity with radioactive “doses,” thereby overlooking the provision’s focus on possible reductions in residual radioactivity sufficient to achieve unrestricted release. NRC Brief at 41-42. However, consideration of the potential impact of “further reductions in residual radioactivity necessary to comply with the provisions of § 20.1402” must entail examining the dose consequences of such reductions, because Section 20.1402 is concerned only with the *doses* attributable to and following the decommissioning process. As applied in Section 20.1402, the “residual radioactivity” acceptable under unrestricted release is that associated with a “TEDE [total effective dose equivalent] to an average member of the critical group that does not exceed 25 mrem (0.25 mSv) per year.” Accordingly, in order to conduct “an ALARA analysis of all viable alternatives” as “the basis for selecting restricted use” (62 Fed. Reg. at 39,069, JA77), a licensee seeking to demonstrate compliance with Section 20.1403(a) must

consider the relative dose consequences of the “residual levels” of restricted and unrestricted release alternatives.⁵

D. The NRC erroneously focuses on “cost-benefit” considerations rather than dose reductions

To support its reading of Section 20.1403(a), the NRC tries to distinguish the ALARA analysis contemplated in 10 C.F.R. § 20.1403(a) from ALARA’s “traditional purpose” of minimizing doses to the public. NRC Brief at 57-58. The NRC postulates a unique function for the ALARA analysis in Section 20.1403(a), alleging that it “is not to achieve dose reductions below a regulatory dose limit, but, instead, to enable a licensee seeking to pursue restricted release to demonstrate the reason why ‘further reductions in residual radioactivity necessary to’

⁵ The NRC insists that “reductions in residual radioactivity” can only be accomplished and measured by “removing, rather than mitigating the effect of, radioactive material.” NRC Brief at 54. The NRC’s definition of “residual levels” as the radioactivity present in any form at the site, whether in the open or buried and whether or not available to impart doses on the public (NRC Brief at 54-56), is not only without support and illogical but is belied by the agency’s own guidance. NUREG-1757 indicates that “NRC staff should review the information provided in the [decommissioning plan, Final Status Survey Report], or other document pertaining to the licensee’s *assessment of the potential doses resulting from the residual radioactivity remaining at the end of the decommissioning process*. The findings and conclusions of the review under this chapter should be used to evaluate the compliance with the dose limit specified in [10 C.F.R. Part 20] Subpart E” and that “NRC staff should review the information provided in the [decommissioning plan] pertaining to the *licensee’s assessment of the potential doses resulting from exposure to residual radioactivity remaining at the end of the decommissioning process*.” NUREG-1757, Vol. 2, at 5-9 and 5-25, JA197-98 (emphasis added).

accomplish unrestricted release were ‘not being made.’” *Id.* at 12-13. Yet, at the same time, the NRC characterizes the Section 20.1403(a) ALARA test as “a *full-scale* ALARA analysis that considers all of the costs and benefits of reducing residual radioactivity levels to regulatory limits.” *Id.* at 12 (emphasis added). As we have seen, these “regulatory limits” are defined in Section 20.1402 according to the doses imparted on the public. Postulating, as the NRC seeks to do, a cost-benefit evaluation that fails to compare the benefits (i.e., dose reductions) achieved under different alternatives only serves to highlight the artifice of the distinctions the NRC seeks to create.

Despite rejecting the notion that the Section 20.1403(a) ALARA analysis calls for a comparative evaluation of doses resulting from various alternatives, the NRC refers to ALARA’s and the LTR’s concern with doses and exposures to radiation throughout its Brief. Thus, while the NRC asserts that *no* comparison of the doses attributable to an unrestricted versus restricted release decommissioning approach is permitted under 10 C.F.R. § 20.1403(a) (NRC Brief at 52), it concedes that *some* comparisons of unrestricted versus restricted release decommissioning goals are contemplated as part of the ALARA analysis required by the regulation, but claims that those comparisons are limited to accounting for benefits of unrestricted release decommissioning that can only be calculated in relative terms (relative to their absence under a restricted release approach), such as regulatory

costs avoided. *Id.* at 32. The NRC does not, and cannot, explain why, if only various forms of unrestricted release methods are being evaluated, it is necessary, or even relevant, to compare each of these against a restricted release method. Under the NRC's analytical framework, each and every unrestricted release method would have the same "cost" advantage over a restricted release approach, since none would incur the licensing and regulatory costs inherent in restricted release decommissioning. *See* NUREG-1757, Vol. 2 at N-6, JA207. Thus, making such a comparison would serve no purpose if one were evaluating only various unrestricted release decommissioning options.

VI. THE NRC'S REJECTION OF DOSE COMPARISONS BETWEEN RESTRICTED AND UNRESTRICTED RELEASE DECOMMISSIONING IS INCONSISTENT WITH THE LANGUAGE AND PURPOSE OF THE REGULATION AND THE ALARA PRINCIPLE

A. The Section 20.1403(a) ALARA analysis necessarily requires comparing doses from all available decommissioning alternatives

The fundamental purpose of the ALARA principle is to ensure that public exposures to radiation are as far below the established dose limits as are reasonably achievable. *Standards for Protection Against Radiation*, 56 Fed. Reg. 23,360, 23,367 (May 21, 1991). To fulfill the dictates of the LTR and decommissioning in accordance with the ALARA principle, one must compare dose outcomes from decommissioning alternatives and then select the method that both meets the

specified dose criteria and reduces exposures to the public to a level that is as low as reasonably achievable (that is, the *lowest* dose exposures that can be reasonably achieved). This is why the ALARA analysis under the LTR requires an analysis of *all viable alternatives* – both unrestricted and restricted use – as the basis for selecting a restricted use decommissioning method. *See* 62 Fed. Reg. at 39,069, JA77.

The NRC and New Jersey claim that the viable alternatives to be compared in a Section 20.1403(a) analysis are only those that would achieve unrestricted release (NRC Brief at 44) because the ALARA evaluation is focused solely upon an analysis of the cost-effectiveness of achieving unrestricted release. NRC Brief at 52; NJ Brief at 29-30. Their explanation, however, conflicts with the plain language of the regulation, which refers to “residual levels *associated with restricted conditions*” as potentially being ALARA. 10 C.F.R. § 20.1403(a) (emphasis added). This language makes clear that the ALARA analysis includes evaluating the radiation dose impacts attributable to a restricted use standard. Furthermore, the NRC’s position does not take into account the context of the “all viable alternatives” discussion in the license termination rulemaking. A few sentences before stating that “[t]o support a request for restricted use a licensee would perform an ALARA analysis of . . . all viable alternatives,” the LTR’s Statement of Considerations states that the specific costs that might be considered

not reasonable would depend on “costs of unrestricted and restricted use, and on an evaluation of these alternatives.” 62 Fed. Reg. at 39,069, JA77. Taken together, it is clear that the alternatives referred to in these statements encompass both unrestricted and restricted use approaches. Therefore, the ALARA analysis under Section 20.1403(a) necessarily requires a comparison of dose outcomes from both types of decommissioning alternatives.

B. NRC’s position would lead to outcomes which are antithetical to the AEA’s mandate to ensure adequate protection of public health and safety

The NRC’s position on this matter is inconsistent with the AEA’s mandate to ensure adequate protection of public health and safety and the NRC’s longstanding use, pursuant to the AEA, of ALARA requirements as a means to minimize danger to life and property. The NRC’s interpretation makes the *cost* of remediating to an unrestricted use standard the main consideration in determining what method of decommissioning a licensee should follow. A paramount duty of the NRC under the AEA, however, is to minimize risks to public health and safety, not to minimize the financial costs a licensee would have to bear to decommission a site to an unrestricted use. *See, e.g.*, 42 U.S.C. §§ 2012(d), 2201(b). It is only by comparing the doses to the public that result from restricted release to those from unrestricted release that 10 C.F.R. § 20.1403(a)’s ALARA requirement fulfills the AEA mandate to protect public health and safety and minimize exposures to

radiation.⁶ Because the NRC's interpretation of Section 20.1403(a) would preclude a licensee from choosing a decommissioning option that meets the Section 20.1403 criteria and results in the lowest exposures to the public, its position is arbitrary and capricious. *See Shalala*, 512 U.S. at 512.

VII. NRC'S INTERPRETATION OF SECTION 20.1403(a) IS A SIGNIFICANT REVERSAL FROM PRIOR PRACTICE

A. Until this litigation, the NRC never identified the type of analysis it now claims is required

Other than a cryptic reference to "NUREG-1757, Vol. 1, at 17-70" (NRC Brief at 12 n.5), the NRC cites no previous agency statements that allegedly support its newly minted interpretation of 10 C.F.R. § 20.1403(a).⁷ This is not

⁶ The NRC claims that Shieldalloy's interpretation of the regulation would dethrone unrestricted release from being the preferred decommissioning method. NRC Brief at 47. Such is not the case. As Section 20.1402 makes clear, a licensee wishing to decommission a site to unrestricted release status is free to do so, provided the method chosen meets the statutory dose limits and is proven to satisfy ALARA. It is only when a licensee wishes to use the restricted release method that it needs to perform a comparison with the unrestricted release alternatives and show that the restricted release has an ALARA advantage.

⁷ The cited page of NUREG-1757 states: "If the licensee has concluded that further reductions in residual radioactivity levels are not required because they are ALARA, the staff should verify that the licensee has considered all of the applicable benefits and costs of further reduction of residual radioactivity and accurately calculated the benefits and costs using the methodology described in Chapter 6 and Appendix N of Volume 2 of this NUREG series." JA191. Nothing in this sentence requires unrestricted release or prohibits restricted release decommissioning. As discussed above, an applicant wishing to utilize

surprising because there is no such support. In none of its issuances prior to, in, or following the LTR's publication did the NRC even hint that an applicant wishing to utilize a restricted release decommissioning option would need to perform an ALARA analysis that just looked at *unrestricted* release alternatives. That tortured interpretation only arose when the needs of this litigation required the Commission to invent it.

On the other hand, the NRC's own guidance contradicts the agency's current interpretation. For example, NUREG-1757 advises how to compare the costs and benefits of unrestricted versus restricted release options:

For compliance with 10 CFR 20.1403(a), one acceptable method of compliance is to demonstrate that cleanup to the unrestricted release criteria is beyond ALARA considerations. In this case, a beneficial estimate should include costs that would be avoided if the site were to be released for unrestricted use, including calculation of site control and maintenance costs and should include estimation of the additional regulatory costs associated with termination of a restricted site (e.g., development of an environmental impact statement, public meetings).

NUREG-1757, Vol. 2 at 6-3, JA199; *see also Shieldalloy II*, 707 F.3d at 381.

Also, as set forth in *Shieldalloy*'s Opening Brief at 55-60, the NRC either endorsed or tacitly accepted the approach proposed by SMC countless times

the restricted use decommissioning approach can start by explaining why implementation of its proposed approach would leave the site in a condition that met the ALARA standard – that is, with lower doses to the public than unrestricted release options. Thus, the cited section of NUREG-1757 does not support the NRC's construction of the regulation.

between 1992 and 2009 – an approach that featured an ALARA comparison between the doses resulting from full removal of the radioactive materials from the Facility and the doses from consolidation and capping of those materials *in-situ*. For example, in 2003, the Staff advised the Commissioners of the status of the decommissioning plans of several facilities that were considering restricted release decommissioning. The Staff had this to report about SMC's efforts to decommission the Facility:

The decommissioning plan for the SMC site was submitted in August 2002. Shieldalloy representatives attended the October 2002 AAR [AAR Manufacturing, Inc.] meeting where NRC staff discussed the LTR restricted release requirements and options. The staff has completed an acceptance review of the decommissioning plan and has rejected the plan because of deficiencies with the proposed institutional controls, independent third party, financial assurance amount for control and maintenance of the engineered cell cap, and early documentation of advice received from affected parties.

* * *

During [future] meetings [with SMC] the staff plans on describing options for restricted release that the staff has recommended to the Commission, with the understanding that the Commission has not yet approved them.

R3 (SECY-03-0069, Results of the License Termination Rule Analysis) (2003), Attachment 1 at 10, JA131. Thus, even though the NRC had found deficiencies in SMC's first decommissioning plan ("DP"), it clearly expressed no reservations or problems with SMC's decision to pursue restricted release decommissioning based on ALARA comparisons with unrestricted release alternatives, as SMC had done

in the DP. *See* Letter from SMC to NRC dated September 11, 2003 at 1-2 (available at: <http://pbadupws.nrc.gov/docs/ML0326/ML032660236.pdf>).

B. The NRC's attempt to brush aside these inconsistencies as insignificant and non-binding is unavailing

The inherent contradictions and overall weakness of the NRC's position are perhaps best evidenced in the agency's attempts to distance itself from its prior interpretations of Section 20.1403(a). *See* NRC Brief at 36-37, 66-73. In essence, the NRC argues that (1) it did not mean what it repeatedly and plainly said, and (2) if it did so mean, its previous interpretation of the provision is countermanded by its current views. Neither argument can withstand scrutiny.

There is, of course, overwhelming evidence that the NRC not only accepted, but expected, that ALARA analyses would be made in a decommissioning plan comparing the costs and benefits of restricted versus unrestricted release decommissioning options.⁸ That evidence takes the form, *inter alia*, of guidance in

⁸ The NRC complains that SMC is citing, and is including in a Supplemental Appendix, a number of official communications between it and the NRC which are not part of the record in this proceeding. NRC Brief at 67-68. The NRC's complaint is largely without factual basis. Of the three documents whose citation the NRC decries, two (the NRC letters to Shieldalloy dated February 28, 2003 and January 26, 2006) are part of the record and were placed before this Court in previous proceedings in this case.

In any event, the NRC's complaint against SMC's citing non-record documents is unfounded. *First*, contrary to its prior practice in this matter (i.e., before approving the New Jersey Agreement State application and again following the remand ordered by this Court in *Shieldalloy I*), the NRC did not seek or invite

NUREG-1757 and numerous exchanges with SMC.⁹

Only two further observations need to be made (beyond those in SMC's Opening Brief) in response to the NRC's attempts to reconcile the statements in NUREG-1757 and the Requests for Additional Information ("RAIs") to SMC with its litigation driven construction of the regulation. *First*, With respect to NUREG-1757, the NRC argues that the ALARA comparisons between unrestricted and restricted release decommissioning "referred to in the guidance do not condone the

comments from SMC in developing its "exegesis" of the regulation. Thus, there was no opportunity for SMC to provide documentation that showed that it was the consistent and reasonable position of the NRC to interpret Section 20.1403(a) as requiring restricted versus unrestricted release ALARA comparisons. Since the NRC unilaterally selected what materials it would look at, it may not be heard to complain that the record does not include some of the items cited by SMC in its Opening Brief and herein. *Second*, the materials of which the NRC complains clearly show how the agency interpreted, before it was in litigation, the meaning of the regulation. *Third*, these materials demonstrate that the agency is improperly reversing itself *sub silentio* here. *See, e.g., FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) ("An agency may not . . . depart from a prior policy *sub silentio* or simply disregard rules that are still on the books"); *Ramaprakash*, 346 F.3d at 1124; *Shieldalloy I*, 624 F.3d at 493; *Shieldalloy II*, 707 F. 3d at 381-82.

⁹ The NRC accuses SMC of making only "limited" efforts to rebut the Commission's attempts to explain away prior statements inconsistent with its position in this litigation, as identified by the Court in *Shieldalloy II*. NRC Brief at 63. This charge is curious because the Memorandum and Order which this Petition challenges devotes less than a page to the subject (*see* CLI-13-06 at 22-23, JA22-23), and only discusses NUREG-1757 and the Staff's July 2007 request for additional information because both items were raised by the Court in *Shieldalloy II*. Both items are addressed in SMC's Opening Brief at pages 51-52 and 59-60.

comparative-dose approach that Shieldalloy advocates and are simply necessary for a complete and accurate analysis of the costs and benefits of reducing residual radioactivity levels to a point at which unrestricted release will be permitted.”

NRC Brief at 65. As noted above, the NRC cannot explain why, if it is only various forms of unrestricted release methods that are being evaluated, it is necessary (or even relevant) to compare each of them against a restricted release method. *Second*, when discussing RAI 32 – which states that, to comply with § 20.1403(a), Shieldalloy should “quantify benefits and costs that can reasonably be quantified, to allow better comparison between alternatives” – the NRC contends that “the RAI as a whole indicates that the staff’s concern was that unrestricted release benefits could not properly be assessed without a thorough quantification of the costs under the restricted-release alternative.” *Id.* at 70. Thus, the NRC admits that it is necessary to conduct a “thorough quantification of the costs under the restricted-release alternative” (which are the same regardless of what unrestricted release alternative is being considered). This is only half a step away from comparing the costs and *benefits* of unrestricted versus restricted release approaches – which has been SMC’s position all along. Try as it may, the NRC cannot fit the square peg of its pre-2012 positions into the round hole of its current reading of the regulation.

Faced with these insuperable difficulties, the NRC resorts to the offhand dismissal of its prior statements, if inconsistent with its present interpretation of the regulation, as being trumped by the agency's current position. NRC Brief at 72. However, official statements of position by an agency to a regulated entity, particularly when repeated over long periods of time, may only be reversed prospectively and only if accompanied by a reasonable explanation that accommodates such reliance. *See Fox Television*, 556 U.S. at 515 (in departing from a prior policy, an agency must provide "a more detailed justification than what would suffice for a new policy created on a blank slate" where, *inter alia*, "its prior policy has engendered serious reliance interests that must be taken into account"); *Smiley v. Citibank (South Dakota), N.A.*, 517 U.S. 735, 742 (1996) ("change that does not take account of legitimate reliance on prior interpretation . . . may be 'arbitrary, capricious or an abuse of discretion'") (citations omitted); *Heckler v. Cmty. Health Servs. of Crawford Cnty., Inc.*, 467 U.S. 51, 60 n.12 (1984) ("an administrative agency may not apply a new rule retroactively when to do so would unduly intrude upon reasonable reliance interests").

VIII. THE NEW JERSEY PROGRAM IS FUNDAMENTALLY INCOMPATIBLE WITH THE NRC'S DECOMMISSIONING SCHEME IN KEY RESPECTS

A. It is undisputed that the New Jersey Program fails to apply the ALARA principle to decommissioning activities

The fundamental purpose of the ALARA standard is to reduce radiation exposures to the public to the minimum amount that cannot reasonably be avoided, regardless of the absolute value of the dose limit set forth in the regulations. NRC regulations require, and the NRC admits, that a licensee must implement the ALARA principle in terminating a facility license. *See* 10 C.F.R. §§ 20.1003, 20.1402-03; NRC Brief at 57, 61-62. The NJ Program, by contrast, does not include application of the ALARA principle within its license termination regulations. This fact is also undisputed by the NRC and New Jersey.¹⁰

A licensee seeking to decommission its facility under NRC standards will be required to implement the decommissioning method that results in the lowest dose exposure that is reasonably achievable. In addition, an NRC licensee will need to take into account the dose exposures resulting from the removal,

¹⁰ The assertions of the NRC and New Jersey that New Jersey has adopted the ALARA principle generally by incorporating 10 C.F.R. §20.1101(b) (*see* NRC Brief at 19; NJ Brief at 19, 36) do not resolve this discrepancy because the State does not require application of the ALARA principle in the license termination process and specifically excludes the provisions of Subpart E of 10 C.F.R. Part 20 from its regulatory scheme. *See* R9 (Shieldalloy's Response to the Commission's January 3, 2011 Order) (Feb. 4, 2011), at 15-16, JA458-59.

transportation and disposal of radioactive material away from the licensed site.

Under New Jersey's standards, by contrast, a licensee is not allowed to terminate its license other than through the unrestricted release approach in which it reduces exposures to the 15 mrem/year threshold, and is not required to consider or account for exposures resulting from the removal, transportation or off-site disposal of its radioactive materials. New Jersey's focus on minimizing the doses at the site is not consistent with ALARA and not consistent with minimizing total doses to the public as part of the entire decommissioning process.

B. The New Jersey Program's refusal to permit license termination under a restricted release approach is inconsistent with the NRC's decommissioning scheme

The NRC repeatedly emphasizes that its regulatory regime includes a preference for unrestricted release license termination. *See, e.g.*, NRC Brief at 10-11, 47-48. It then characterizes the NJ Program as being akin to the NRC approach because it, too, favors unrestricted release license termination. *See id.* at 19-20, 34, 74. However, there is a critical difference between the two approaches: the NJ Program does not simply make unrestricted release its preferred approach – it *precludes* license termination based upon a restricted release approach.

That the NJ Program does not allow a restricted release approach to license termination is demonstrated by examining the State's regulations. The NRC cites N.J. Admin. Code § 7:28-12.8(a)(1) for the proposition that New Jersey only

makes restricted release more difficult to obtain than unrestricted release. *See* NRC Brief at 19-20. That provision of the NJ Program, however, addresses only site remediation, and does not allow a licensee to terminate its license after remediating its site to meet the restricted release criteria. Similarly, New Jersey points to N.J. Admin. Code § 7:28-12.9 as support for the proposition that the Program provides restricted use decommissioning options. *See* NJ Brief at 27-28, 31. That provision, however, only states the numerical value remediation standards that must be met to satisfy N.J. Admin. Code § 7:28-12.8. It does not provide for termination of any New Jersey license after a site is remediated to meet the restricted release criteria.

Termination of a materials license in the State explicitly requires that a licensee provide a disposition certificate attesting that the remediation requirements are met and specifically requesting that the site be “*release[d] for unrestricted use.*” NJRAD Form-314 (Revised Oct. 3, 2012) (available at: <http://www.state.nj.us/dep/rpp/rms/agreedown/Termination.pdf>), Section E, JA606 (emphasis added). The disposition certificate is mandated by N.J. Admin. Code § 7:28-58.1(a) and (c), which incorporates 10 C.F.R. § 40.42(j)(1) and its requirement that, prior to license termination, a licensee must “[c]ertify the disposition of all licensed material, including accumulated wastes, by submitting a

completed [NJRAD] Form 314 or equivalent information.” 10 C.F.R. § 40.42(j)(1), incorporated by N.J. Admin. Code § 7:28-58.1(a), (c).¹¹

C. The shortcomings in the New Jersey Program render it incompatible with the NRC’s program

ALARA is a vital component of the NRC’s licensing regime, explicitly including facility decommissioning and license termination, and the failure of the NJ Program to incorporate it with respect to license termination renders that Program inadequate and incompatible with the NRC’s. Likewise, the NJ Program’s failure to permit restricted release decommissioning under any circumstance, even when such an approach would minimize radiation doses to the public, is inconsistent and incompatible with the NRC’s license termination scheme.

IX. CONCLUSION

In the previous cases, this Court agreed with Shieldalloy’s central challenges to the NRC’s original transfer of regulatory authority to New Jersey: (1) that “New Jersey’s program is incompatible with the federal scheme” and (2) that “the

¹¹ New Jersey asserts that its Program incorporates the requirement that the license for any decommissioned site be terminated. NJ Brief at 34-35. However, its argument, like the NRC’s, fails to account for the further requirement of N.J. Admin. Code § 7:28-58.1(a) & (c) that a certificate be filed requesting that a site be released for *unrestricted* use before its license may be terminated.

transfer of authority was arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” *Shieldalloy I*, 624 F.3d at 491 (quotation and citation omitted); *see also Shieldalloy II*, 707 F.3d at 383. Furthermore, in considering the important question of public safety of “[w]hat rules govern the means by which the owner of a licensed nuclear facility may decommission that facility and dispose of its radioactive materials?” the Court observed that the NRC’s claimed “clarity and consistency are not apparent to us.” *Shieldalloy II*, 707 F.3d at 373. The latest NRC attempt to provide clarity and consistency is as flawed as its previous efforts and introduces further opacity and inconsistency. Moreover, the agency and New Jersey have failed to demonstrate that the latest transfer of authority to that State was anything other than arbitrary and capricious. Accordingly, the Court should direct the NRC to rescind its transfer of regulatory authority to New Jersey and reinstate its authority over the Facility.

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION

Pursuant to Rule 32(a)(7)(C) of the Federal Rules of Appellate Procedure, Petitioner's Counsel hereby certifies that the foregoing "Reply Brief of Petitioner Shieldalloy Metallurgical Corporation" complies with the type-volume limitation in Fed. R. App. P. 32(a)(7)(B)(i) in that it contains, exclusive of the table of contents; table of authorities; glossary; the addendum containing statutes, rules or regulations; and the certificates of counsel, 6,774 words of proportionally spaced, 14 point Times New Roman font text.

In making this certification, Counsel has relied on the word count function of Microsoft Word, the word-processing system used to prepare this brief.

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CERTIFICATE OF SERVICE

I hereby certify, in accordance with Circuit Rule 31, that the electronic original and five paper copies of the foregoing Reply Brief of Petitioner Shieldalloy Metallurgical Corporation (the “Brief”) were filed with the Clerk of the Court this 13th day of June 2014. In addition, on this 13th day of June 2014, paper copies of the Brief were served on the following participants in the case by United States first class mail, postage prepaid:

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