

RAS L-27



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February 11, 2011 (4:30 p.m.)

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ADJUDICATIONS STAFF

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February 11, 2011

U.S. Nuclear Regulatory Commission  
Mail Stop O-16G4  
Washington, DC 20555-0001

Re: In re Shieldalloy Metallurgical Corp. (License  
Amendment Request for Decommissioning of the  
Newfield, NJ Site)  
Docket No. 40-7102-MLA

Dear Commission:

This office represents the State of New Jersey. Please accept this letter in reply to Shieldalloy Metallurgical Corp.'s February 4, 2011 submission in the above referenced matter.

Shieldalloy asserts that the U.S. Court of Appeals for the D.C. Circuit decision and mandate "signify that the Commission is to retain jurisdiction over the Newfield Facility." (Sb8).<sup>1</sup> However, the Court's decision and mandate were based on a narrower ruling-the NRC failed to explain how the transfer of authority would not interfere with the processing of a license application.

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<sup>1</sup>"Sb" refers to Shieldalloy's February 4, 2011 brief to the Commission.



TEMPLATE = SECY 043

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Shieldalloy Metallurgical Corp. v. NRC, 624 F.3d 489, 497 (D.C. Cir. 2010). Once the NRC provides an explanation, it may transfer authority back to New Jersey. As New Jersey stated in its February 4, 2011 letter, transferring authority does not interfere with a license application because it was Shieldalloy's choice to delay the submission of its first decommissioning plan for four years, in violation of the Timeliness Rule, and then to pursue for eight years its onsite disposal plans despite its repeated failures to adequately address various legal and technical issues. (NJL2-7).<sup>2</sup>

Shieldalloy asserts that transferring authority to New Jersey would violate Criterion 25 because "New Jersey was, and remains, opposed to the processing of the DP applications." (Sb9). However, as discussed in New Jersey's February 4, 2011 submission, New Jersey has only raised legitimate concerns regarding factual, technical, and legal problems with Shieldalloy's proposed decommissioning plans. (NJL14-23). In fact, the Atomic Safety and Licensing Board, the NRC Staff, various NRC Commissioners and the U.S. Environmental Protection Agency ("EPA") raised most of the same problems with Shieldalloy's decommissioning plan as New Jersey. Id. Once New Jersey obtained authority over Shieldalloy, it directed Shieldalloy to submit a decommissioning plan that complied

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<sup>2</sup>"NJL" refers to New Jersey's February 4, 2011 letter to the Commission.

alternative criteria. N.J.A.C. 7:28-12.9, -12.11. Also, BER's regulations provide procedures to request an exemption from any regulatory requirement as long as the exemption does not result in radiation exposures above permissible limits. N.J.A.C. 7:28-2.8. Shieldalloy would be entitled to a hearing on a BER licensing decision in the Office of Administrative Law ("OAL"), which is independent of the NJDEP and the BER. N.J.A.C. 7:28-4.18; N.J.S.A. 52:14F-1. The licensee has the right to appeal the final NJDEP decision to the NJ Superior Court, Appellate Division, an independent appellate court in the judiciary branch. N.J. Court Rule 2:2-3(a)(2); In re Senior Appeals Examiners, 60 N.J. 356, 363 (1972).

Shieldalloy asserts that the D.C. Circuit Court rejected the NRC's position that the Atomic Energy Act ("AEA") precludes the partial transfer of authority unless requested by the State. (Sb10-11). However, the Court actually held: "On the current record we cannot decide the interpretation of the statute." Shieldalloy, supra, 624 F.3d at 495. The NRC has discretion to interpret the statute it administers. Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 842-43, 104 S. Ct. 2778, 81 L. Ed. 2d 694 (1984). The NRC's interpretation of the AEA on this issue is reasonable and would likely be upheld if fully briefed to the Court.

Shieldalloy claims that the NRC should retain authority because New Jersey's regulations require off-site disposal. (Sb12-13). Shieldalloy claims that based upon the analyses in its decommissioning plans, offsite disposal would result in greater doses of radiation to workers and the public than the onsite disposal. (Sb13). Shieldalloy asserts that such analysis "has not been controverted at any time by the Staff or by New Jersey." (Sb13).

However, Shieldalloy must have overlooked the NRC Staff's Request for Additional Information ("RAI"), which had fourteen parts devoted to Shieldalloy's flawed analysis on this issue in its third decommissioning plan (Rev. 1a). (A313-A314, A326-A334, RAI ## 8, 27-42). When comparing different disposal options, the NRC Staff noted that the "primary (but not the only) benefit is generally the collective dose averted in the future." (A327, RAI #30). The Staff criticized Shieldalloy's analysis because it failed to consider this primary benefit for each alternative and instead only considered the costs in terms of the doses incurred for each alternative. (A327-A328, RAI #30). The Staff notes some other basic flaws in Shieldalloy's analysis: failing to specify which criteria the plan is utilizing (ALARA or net harm) and failing to clearly demonstrate either option, (A236, RAI #27); failing to consider costs and benefits over the entire 1,000-year period, (A331-A332,

RAI ##35, 36); failing to consider the costs and benefits for each alternative, (A331, RAI #37); overly discounting the value of future doses, (A332, RAI #38); using biased values for the dose assessments, (A333, RAI #40); and overestimating rail fatalities, (A334, RAI #42).

Shieldalloy states that the conclusions of such analyses remained unchanged in earlier revisions of the decommissioning plan and that "DP Rev. 1a (June 2006) is identical to Rev. 1 in this area." (Sb13 n.20). However, the NRC Staff rejected the first plan (Rev. 0) on the basis that Shieldalloy failed to submit sufficient information regarding its site-specific dose modeling and its ALARA analysis. (A12). The NRC Staff rejected the second plan (Rev. 1) on the basis that Shieldalloy again failed to submit sufficient information regarding its dose modeling. (A91). As mentioned in the previous paragraph, Shieldalloy again failed to conduct an adequate dose modeling and ALARA analysis in its third decommissioning plan (Rev. 1a). Shieldalloy's present assertion that its ALARA/net harm analysis in its various decommissioning plans "has not been controverted at any time by the Staff or by New Jersey," (Sb13), demonstrates Shieldalloy's intentional disregard of the NRC Staff's comments and is consistent with its history of submissions to the NRC of deficient decommissioning plans. Such disregard of its decommissioning responsibilities indicates that transferring

authority to New Jersey would not interfere with Shieldalloy's decommissioning.

Nevertheless, if Shieldalloy can eventually demonstrate that onsite disposal is the safer option, that may be a basis for seeking the exemption to the New Jersey regulations it is currently pursuing. (Exhibit A,<sup>4</sup> page 13). Shieldalloy has been granted a hearing on the exemption request in the OAL. (A418).

Shieldalloy asserts that fairness requires the NRC to retain jurisdiction. (Sb14-15). But New Jersey's February 4, 2011 submission discusses at length the various NRC representations indicating that the onsite disposal may not be approved. (NJL8-13). Furthermore, the resources Shieldalloy spent on its decommissioning plans would not be wasted. (NJL29). New Jersey's review of Shieldalloy's fourth decommissioning plan (Rev. 1b) indicates that most of it would apply to a decommissioning under New Jersey's regulations with revisions. Id.

Shieldalloy states that the NRC has expertise in decommissioning matters and great familiarity with the Newfield facility. (Sb14). Shieldalloy overlooks the fact that the NJDEP also has expertise in decommissioning and great familiarity with the Newfield facility. New Jersey's regulation of radioactive materials dates back to December 31, 1952 with the creation of the

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<sup>4</sup>"Exhibit" refers to the exhibits attached to this letter.

Radiological Health Program within the N.J. Bureau of Adult and Industrial Health. (Exhibit D page 1 of 14, ADAMS ML090510713 page 129). The Program focused on inspecting x-ray and fluoroscopic shoe fitting machines and monitoring air samples for radiation. Id. By 1960, New Jersey promulgated the New Jersey Radiation Protection Code, which dealt with general requirements for radiation protection and required the registration of x-ray units and radioactive materials. Id. at 2 of 14. By 1965, New Jersey began licensing the possession and use of all radioactive materials not subject to AEC control. Id. at 4 of 14. The NJDEP has been regulating the decommissioning of facilities containing radioactive materials since 1976. Solid Waste Management Act, N.J.S.A. 13:1E-38 (L. 1976, c. 99, effective Oct. 7, 1976) (defining "hazardous waste" to include a "radioactive" waste material); Spill Compensation and Control Act, N.J.S.A. 58:10-23.11B (L. 1986, c. 143) (defining "hazardous substances" to include those substances on the hazardous substances list adopted by the EPA pursuant to section 101 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980).

In fact, Shieldalloy had stored large amounts of ferrovandium slag, a radioactive material, at its Newfield facility. (Exhibit B ¶¶ 3, 4). Because such materials came within New Jersey's jurisdiction, the NJDEP oversaw Shieldalloy's disposal of the

material. Id. The NJDEP has also overseen Shieldalloy's ongoing remediation of chromium and other contaminants from the groundwater at the Newfield facility. (Exhibit C).

In footnote 26 of Shieldalloy's submission, it claims that "New Jersey has unambiguously declared that its regulations do not allow license termination based on onsite remediation. December 11, 2009 NJDEP letter to Shieldalloy's counsel." (Sb16 n.26). However, a review of that letter (A399-A400) indicates that no such representation was made.<sup>5</sup> Under New Jersey's unrestricted use, limited restricted use, and restricted use options, the licensee is required to remediate radioactive contamination so that the soil concentration for radionuclides meet the concentration standards set forth in the tables at N.J.A.C. 7:28-12.9. The regulations also provide a fourth decommissioning option that allows licensees to seek alternative standards. Under this option, the licensee is not required to meet the soil concentration levels under N.J.A.C. 7:28-12.9. Instead, the licensee is required to perform computer dose modeling to ensure that radioactivity from the site will not cause a future on-site resident or worker to receive more than a 15 millirem ("mrem") dose of radiation in a given year and 100 mrem in a given year if all controls fail. N.J.A.C. 7:28-12.11(a)(1), (e),

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<sup>5</sup>Shieldalloy requested and received a hearing in the OAL on the December 11, 2009 NJDEP letter, which denies Shieldalloy's exemption request. (A401, A418).



(f) (2). Such dose modeling is not required if the licensee seeks to decommission using the Department's unrestricted use, limited restricted use, or restricted use options. N.J.A.C. 7:28-12.9(a), -12.11(a). Also, N.J.A.C. 7:28-12.15 requires licensees to comply with the alternative remediation standards where they seek to bury radioactive materials without remediation. Thus, the regulations may permit the onsite disposal of certain radioactive materials.

Shieldalloy asserts identical claims which it raised to the D.C. Circuit Court of Appeals, but not ruled on by the Court, that the New Jersey and NRC regulatory programs are incompatible. (Sb15-18). Such arguments were already addressed at length by the NRC counsel's brief and New Jersey's amicus brief. For the reasons set forth therein, New Jersey's program should be found to be compatible.<sup>6</sup>

Respectfully submitted,

PAULA T. DOW  
ATTORNEY GENERAL OF NEW JERSEY

By: /s/ Andrew Reese  
Andrew D. Reese  
Deputy Attorney General

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<sup>6</sup>The NRC previously reviewed New Jersey's program as part of its application to become an Agreement State and found it to be "adequate to protect public health and safety and compatible with the NRC's program." 74 Fed. Reg. 51882 (Oct. 8, 2009).

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Enclosure: Exhibits  
Certification of Service

c.: Service List

In the Matter of )  
)  
SHIELDALLOY METALLURGICAL CORP.)  
)  
(License Amendment Request for )  
Decommissioning the )  
Newfield, New Jersey Facility )

Docket No. 40-7102-MLA

### CERTIFICATION OF SERVICE

I hereby certify that copies of the enclosed Letter and Exhibits on behalf of the state of New Jersey have been served upon the following by electronic mail on this date, followed by deposit of paper copies in the U.S. mail, first class.

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Andrew L. Bates, Acting Secretary  
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Office of the Secretary  
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Date: February 11, 2011

*/s/ Andrew Reese*  
\_\_\_\_\_  
Andrew D. Reese

# Exhibit A



**RIKER  
DANZIG  
SCHERER  
HYLAND  
PERRETTI<sup>LLP</sup>**

**Dennis J. Krumholz**  
Partner

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ATTORNEYS AT LAW

**VIA FEDERAL EXPRESS**

November 18, 2009

Ms. Nancy Wittenberg  
Assistant Commissioner, Environmental Regulation  
New Jersey Department of Environmental Protection  
401 East State Street, 3<sup>rd</sup> Floor  
PO Box 423  
Trenton, NJ 08625-0423

**Re: Request for Hardship Exemption or Stay  
Shieldalloy Metallurgical Corporation**

Dear Ms. Wittenberg:

This firm represents Shieldalloy Metallurgical Corporation ("Shieldalloy" or the "company") in connection with the decommissioning of its facility located in Newfield, New Jersey (the "Site"). The facility is subject to the terms and conditions of radioactive materials license No. SMB-743 issued by the Nuclear Regulatory Commission ("NRC"). We have received the October 8, 2009 letter of Patricia Gardner, Manager for the Bureau of Environmental Radiation within the New Jersey Department of Environmental Protection ("NJDEP" or "Department"), that rejects Shieldalloy's Decommissioning Plan ("DP") for the Site submitted to the NRC on August 28, 2009, as non-compliant with N.J.A.C. 7:28-58, including N.J.A.C. 7:28-12. The letter requires the company to prepare and submit a compliant decommissioning plan by January 31, 2010.

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We write to request (1) a hardship exemption in accordance with N.J.A.C. 7:28-2.8, which would allow the Department to grant an exemption from certain requirements of N.J.A.C. 7:28-12 and thereby approve the DP, or (2) a stay of the requirement to prepare and submit a revised decommissioning plan compliant with N.J.A.C. 7:28-12 until the litigation commenced by Shieldalloy with respect to this matter in the federal and state courts is completed. See In re N.J.A.C. 7:28, Docket No. A-278-09 (Sup. Ct., App. Div.); Shieldalloy Metallurgical Corporation v. State of New Jersey, Department of Environmental Protection, and Mark N. Mauriello, in his Capacity as Acting Commissioner of the Department of Environmental Protection of the State of New Jersey, Docket No. 1:09-cv-04375-JEI-JS (U.S.D.C.); Shieldalloy Metallurgical Corporation v. United States Nuclear Regulatory Commission and the United States of America (D.C. Circuit, Docket No. 09-1268) (filed November 3, 2009).

## **BACKGROUND**

Shieldalloy holds license no. SMB-743 ("License") for the Site, which was first issued by the Atomic Energy Commission ("AEC") in 1963 and renewed continuously since then by the AEC and the NRC, its successor agency. The License allows Shieldalloy to possess radioactive "source material" (i.e., uranium and thorium) and to plan the decommissioning of the Site. Source material was used by Shieldalloy at the Site since the 1950s in manufacturing operations.

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involving the processing of pyrochlore, an ore containing greater than 0.05% by weight of natural uranium and thorium. These manufacturing operations, which ceased in 2001, produced various radioactive by-products, including "slag" and baghouse dust that also contain uranium and thorium. These left-over source material remain in the Storage Yard, an approximately 12-acre portion of the 68-acre Site that has been designated a radiologically restricted area.

Shieldalloy advised the NRC in 1992 that its plan to decommission the Site would consist of permanent in-situ capping of slag and baghouse dust in the Storage Yard. This method is permitted by NRC regulations and guidelines currently in effect because it is safe and reliable. The company submitted a Conceptual Decommissioning Plan to NRC in 1993, providing more details on the in-situ capping approach. Shieldalloy's plan to decommission the Site using in-situ capping also was an element of the Environmental Settlement Agreement dated December 27, 1996, among Shieldalloy, NRC, NJDEP and others ("Environmental Settlement Agreement") that enabled the company to emerge from bankruptcy in 1997. Since approximately 2000, Shieldalloy has been working with the NRC to obtain approval of its DP for the Site, and it filed revisions to the plan in 2005, 2006 and 2009. The NJDEP has been aware of and has participated in the NRC process to review Shieldalloy's decommissioning plans for nearly two decades.

Shieldalloy submitted Revision (Rev.) 1b of its DP to the NRC on August 28, 2009, which describes in detail the company's plan to decommission the Site.



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authority over its facility to the State of New Jersey until judicial review can be obtained of these matters, and it has filed a Petition in the United States Court of Appeal for the District of Columbia Circuit seeking review of the NRC's decision to enter into the agreement with New Jersey. Shieldalloy Metallurgical Corporation v. United States Nuclear Regulatory Commission and the United States of America. These proceedings have just begun; briefing and/or trial on the substantive issues remain to be addressed.

#### **SHIELDALLOY SATISFIES THE REGULATORY REQUIREMENT FOR A HARDSHIP EXEMPTION**

Shieldalloy requests that the Department grant a "hardship exemption" from certain requirements of the Radiation Protection Rules, N.J.A.C. 7:28 (Rules).<sup>1</sup> The granting of this exemption would allow the NJDEP to approve the company's DP Rev. 1b. As demonstrated below, Shieldalloy is able to fulfill the requirements of the regulatory exemption, and its plan to decommission the Site is protective of public health and safety and the environment. In the alternative, if an exemption is not granted, and if the Department orders Shieldalloy to remove the source material from the Site, the company is likely to be forced into

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<sup>1</sup> Shieldalloy's request for a regulatory exemption is made without prejudice to its right to challenge the validity of the Rules and their applicability to the Shieldalloy Site, and to its pending challenge to the transfer of authority over the Site from the NRC to the State of New Jersey.

bankruptcy and/or liquidation and be unable to decommission the Site.

Section 2.8, Special Exemptions, of the Rules provides as follows:

The Department, upon application and showing of hardship or compelling need, with the approval of the Commission, may grant an exemption from any requirement of [N.J.A.C. 7:28] should it determine that such exemption will not result in any exposure to radiation in excess of the limits permitted by Subchapter 6, Standards for Protection Against Radiation.

The requirements of Section 2.8 are clearly satisfied in this instance.

A. Hardship to Shieldalloy would result from strict compliance with N.J.A.C. 7:28-12.

A genuine hardship would be imposed upon Shieldalloy if it were required to decommission the Site in full compliance with the Rules. In DP Rev. 1b, Shieldalloy has analyzed and presented the cost of several alternatives in decommissioning the Site. The cost to implement Shieldalloy's decommissioning plan is on the order of \$14.7 million. DP Rev. 1b, Table 17.2. By contrast, the cost to remove the radioactive materials from the site and dispose of them in Utah as would be required by the Rules is in excess of \$70 million.<sup>2</sup> DP Rev. 1b,

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<sup>2</sup> We are aware that the State of New Jersey recently asserted to the NRC that removal of the materials might be completed for \$45 million. Even if the difference in cost were material to the ability of Shieldalloy to implement this remedy -- which it is not -- the EnergySolutions' estimate forming the basis of the State's assertion acknowledges that it does not include all (footnote continued...)

Table 17.3.

Although Shieldalloy's DP Rev. 1b complies with NRC regulations and guidance and is protective of public health and safety and the environment, certain requirements of N.J.A.C. 7:28-12 effectively prohibit Shieldalloy's decommissioning plan and require the excavation and removal of the radioactive materials. Shieldalloy requests an exemption from those Rules that would prohibit the company's in-situ capping of slag and baghouse dust in the Storage Yard, as well as from the Rules for establishing specific cleanup standards that render Shieldalloy's plan to decommission and release the remainder of the Site noncompliant.

The requirements of N.J.A.C. 7:28-12 that preclude acceptance of Rev. 1b of the DP, and which Shieldalloy requests be waived, include the following:

- Use of the "all controls fail" exposure scenario, N.J.A.C. 7:28-12.11(e). In effect, this regulation requires an evaluation of the effectiveness of Shieldalloy's DP in protecting public health and safety in the event of a total and instantaneous failure of the proposed remedy. Put another way, the NJDEP requires use of the assumption that all engineering and institutional controls have completely disappeared, including the presence

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costs to decommission the Site or account for the cost-contingency factor required by the (footnote continued...)

of the permanent engineered barrier. As noted, Shieldalloy's proposed engineered barrier will be effective for more than 1,000 years, even without maintenance, and DP Rev. 1b includes funding and licensing provisions for monitoring, maintenance, repair and reporting for at least this length of time. The NRC mandates use of more reasonable exposure scenarios, for example allowing consideration of partial degradation rather than a complete failure of the engineered barrier and other controls. Shieldalloy's DP satisfies the requirements of this scenario and of all other scenarios postulated by NRC. Requiring use of the Department's "all controls fail" scenario is not reasonable under these circumstances.

- Consideration of "peak dose" if it may occur more than 1,000 years in the future. N.J.A.C. 7:28-12.11(f)(2)(iii). Requiring an evaluation of potential radiological conditions which may be present more than 1,000 years from the present -- and requiring a remedy to be developed on the basis of that analysis -- exceeds all standards of reasonableness. 1,000 years is itself an extraordinarily conservative planning horizon, and Shieldalloy has demonstrated that its proposed decommissioning plan will be effective and provide adequate protection for at least that length of time, and probably

considerably longer.

- Use of isotope-specific soil cleanup standards for each radionuclide, based on allowed Derived Concentration Guidance Levels (“DCGLs”) above background. See N.J.A.C. 7:28-12.9. NRC and most other states rely upon “total effective dose equivalent,” or TEDE, as the primary measure and limitation on radiological exposures, and Shieldalloy’s DP Rev. 1b complies with these limitations. However, the NJDEP additionally requires compliance with specific DCGLs for each radionuclide in soil that become more stringent with depth and proximity to bedrock sources of background radiation. Compliance with these NJDEP limits at the Site is essentially impossible because the material in question is naturally occurring uranium and thorium and relatively high background levels of those radionuclides also are present at the Site. Since these radionuclides are ubiquitously present in the natural environment, there is great difficulty distinguishing among radioactivity resulting from natural background, source material operations and general industrial operations and infrastructure. Further, uranium and thorium have a host of daughter isotopes (progeny), which are present at the Site from natural and man-made sources. As a result, all of the isotopes listed in the NJDEP tables

must be evaluated using NJDEP's conservative regulatory formula, which gives rise to DCGLs for each isotope that are so low they are comparable to and indistinguishable from variations in background sources, whether natural or man-made. The impossibility of complying with these standards in the Storage Yard and in the remainder of the Site represents an additional hardship justifying Shieldalloy's request for an exemption from the Rules.

- Use of specific limits for surface water and ground water discharges. See N.J.A.C. 7:28-12.11. Contrary to the approach of the NRC and other states, the NJDEP requires that the potential radiation exposures be evaluated and specifically limited for each environmental medium -- soil, ground water and surface water -- rather than for total potential exposure across all media. These New Jersey-specific limitations are not necessary to protect public health or the environment and, as described above, they are particularly difficult to meet at the Site due to the fact that the radioactivity in question is present in the natural background.
- Limitations on the development of alternative exposure scenarios and standards. See N.J.A.C. 7:28-12.11. The NJDEP's Rules are based upon

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use of overly conservative exposure scenarios, and they significantly limit the use of alternative parameters and exposure scenarios. The required use of these scenarios conflicts with the NRC's rules and guidance and those of other states, which are protective of public health and the environment while allowing use of more reasonable alternatives and exposure scenarios to determine potential radiation dose (e.g., dose to the average member of a critical exposed group). See, e.g., 10 C.F.R. 20.1402, 20.1403(b). The limitations on the development of alternatives make it impossible to comply with the Rules at the Site because of the significant natural background radiation. In addition, during the dose assessment, any DCGLs that are derived from the use of a 15 millirem dose limit and the specific input parameters required by NJDEP are too low to be detectable at the Site with any scientific certainty. We note, too, that these restrictions on the development of alternatives conflict with the Brownfields and Contaminated Site Remediation Act, one of the statutes upon which the agency relies for authority in promulgating the Rules; specifically, the use of site-specific risk assessment to develop soil cleanup standards. See N.J.S.A. 58:10B-12.f(1).

- Other requirements of N.J.A.C. 7:28 also may conflict with aspects of

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Shieldalloy's DP Rev. 1b; we will provide additional information to the Department if it is amenable to further considering this exemption.

The result of applying the requirements of N.J.A.C. 7:28-12 to the Site is that the in-situ capping method may not be used to cap the Storage Yard, and the remainder of the Site may not be released for redevelopment for industrial use as proposed in DP Rev. 1b. Instead, the source material at the Site will need to be excavated and removed at enormous cost to be similarly capped at another location in Utah; the remainder of the Site also will have to be decontaminated to satisfy standards that are impossible to meet. The approach required by the NJDEP Rules is significantly more stringent than, and is at odds with, the views of the NRC, most other states and the scientific community, and provides a lesser level of public safety than does Shieldalloy's proposed plan. The approach is also well beyond the authority of the New Jersey Radiation Protection Act to address "unnecessary radiation." Excavation and removal of the source material is not necessary to protect public health and the environment and, in fact, Shieldalloy has demonstrated that it is less protective than capping the source material in place.

Shieldalloy is financially able to absorb the cost to implement the in-situ capping method and the release of the Site, as described in DP Rev. 1b as



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approximately \$14 million. The company cannot, however, defray the \$70 million cost of removal of the materials from the Site that would be required by N.J.A.C. 7:28-12. As a result, were the company required to implement the excavation and removal alternative it would suffer catastrophic business injury; Shieldalloy would most likely be forced to file a petition for bankruptcy, potentially liquidate and be unable to decommission the Site. Recall, as noted above, that the company already filed for bankruptcy protection once and was able to emerge only as a result of the agreement by all parties -- including the NRC and New Jersey -- to set aside funds to decommission the Site using in-situ capping, as reflected in the Environmental Settlement Agreement. Likewise, compliance with the specific cleanup standards contemplated by the Rules, even if this were possible, would be extraordinarily costly.

In sum, the NJDEP's requirement to decommission the Site in full compliance with N.J.A.C. 7:28-12 will give rise to significant hardship to Shieldalloy, and there is a compelling need for the exemption. See N.J.A.C. 7:28-2.8. An exemption from these requirements, on the other hand, will enable Shieldalloy to implement the in-situ decommissioning approach presented in DP Rev. 1b and to release the remainder of the Site for industrial redevelopment.

B. Shieldalloy's DP Rev. 1b complies with the radiation exposure limits set forth in Subchapter 6 of the Rules.

Shieldalloy's in-situ decommissioning plan complies with the dose limits

contained at N.J.A.C. 7:28-6, the second prong of the hardship exemption. With several omissions and amendments, Subchapter 6 of the Rules incorporates by reference substantially all of NRC regulations in 10 C.F.R. Part 20, including a number of the NRC's dose limits. The most stringent limit incorporated into the regulations provides that the maximum allowable radiation exposure to the general public is 100 millirem (mrem) total effective dose equivalent (TEDE).

DP Rev. 1b demonstrates that the level of protection required by Subchapter 6 is achieved by Shieldalloy's proposed in-situ capping plan. Even in an overly conservative worst-case scenario, Shieldalloy's in-situ capping of the radioactive material results in potential radiation exposure that is below 100 mrem TEDE. In this highly unlikely scenario, Shieldalloy's seven-layer engineered barrier is degraded as a result of the intentional breaching of the cap; a hypothetical subsistence farming family lives next to the breach in the cap; it derives its drinking water from beneath the source material and eats only produce and animals grown on the Site. As described in DP Rev. 1b, this highly unlikely scenario results in an exposure of 86 mrem TEDE, which is below the applicable dose limit of Subchapter 6.

More realistic exposure scenarios evaluated in DP Rev. 1b show potential dose exposures that are lower by many orders of magnitude than the limits of Subchapter 6: 0.0000003 mrem TEDE for a maintenance worker, 0.000003 to 2 mrem TEDE for a recreational hunter, 0.0000004 to 1 mrem TEDE for an

Nancy Wittenberg  
November 18, 2009  
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occasional trespasser, and less than 25 millirem TEDE for an industrial worker on the Site. See DP Rev. 1b § 5.3 and Appendix 19.11.

In summary, DP Rev. 1b demonstrates that it will meet the applicable dose limits incorporated by reference in Subchapter 6. Under all reasonable exposure scenarios within a 1,000 year planning horizon, the plan will result in no measurable radiation dose to any member of the public. Moreover, the in-situ capping method described in DP Rev. 1b is far safer and produces fewer potential health and environmental impacts than any other option for decommissioning the Newfield facility.

Finally, as described in Chapter 7 of DP Rev. 1b, were excavation and removal of source material implemented as would be required by N.J.A.C. 7:28-12, the processing and packaging of the materials for shipment to the disposal site in Utah would result in direct radiation exposure and inhalation of airborne radioactivity by Shieldalloy employees, contractors, decommissioning workers, and members of the public. DP Rev 1b § 7.3.4 – 7.3.5. The public and decommissioning workers also would be exposed to radiation during the transportation of the materials to the Utah disposal site and during its ultimate disposal there. DP Rev 1b § 7.3.4.2. The total doses to workers and the public resulting from this removal and off-site disposal process would be much greater than those that would result from implementation of Shieldalloy's proposed in-situ capping. DP Rev 1b § 7.3.5. Indeed, this approach would give rise to

Nancy Wittenberg  
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“unnecessary radiation” exposures prohibited by the Radiation Protection Act.

Based on the foregoing, and on the information contained in DP Rev. 1b, the NJDEP should grant a hardship exemption to Shieldalloy and allow the company to decommission its facility in accordance with the provisions of DP Rev. 1b.

**ALTERNATIVELY, SHIELDALLOY'S REQUEST FOR A STAY SHOULD BE GRANTED**

Shieldalloy requests in the alternative that the Department issue a stay of its October 8, 2009 requirement that the company submit a revised decommissioning plan in accordance with the Rules by January 31, 2010.<sup>3</sup> As noted above, several litigations are underway to preserve Shieldalloy's ability to decommission the Site in accordance with DP Rev. 1b, including procedural and substantive challenges to the very regulations that the NJDEP is seeking to enforce against Shieldalloy by requiring it submit a revised decommissioning plan. These litigations have commenced only recently, and the substantive issues have yet to be joined.

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<sup>3</sup> Even if Shieldalloy were capable of funding the decommissioning plan required by NJDEP's Rules, the three-month period allowed by the Department to prepare and submit a plan is wholly inadequate for the task. By comparison, the NRC regulations at 10 C.F.R. §40.42(d) (footnote continued...)

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As explained above, Shieldalloy is incapable of funding the decommissioning of the Site as would be required by the Rules. It also would be manifestly unfair and a waste of resources to require the company to prepare and submit a decommissioning plan that commits the company to conform with the requirements of N.J.A.C. 7:28 while it is appealing the validity of this very rule.

If a stay is not granted, Shieldalloy will suffer substantial harm. If the company is required to decommission the facility in accordance with the requirements of N.J.A.C. 7:28, it likely will be forced into bankruptcy and, perhaps, to liquidate. See Saturn v. General Motors Corp., 2009 WL 1545559 (D.N.J. May 29, 2009) (finding that destruction of a business is irreparable harm). Expending limited resources to prepare a decommissioning plan that the company cannot implement is unfair and wasteful, particularly if its challenges to the Rules are successful.

It also is possible that Shieldalloy would become unfairly subject to penalty if it were to refuse to prepare the revised DP in accordance with the challenged regulations. See, e.g., In re Kimber Petroleum, 110 N.J. 69, 80 (1988) (“[d]ue process standards arguably call for a right to challenge the validity of a legislative or administrative order without facing the possibility that one will incur a greater penalty if such challenge is unsuccessful than the loss resulting from such an order

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allow licensees twelve months (subject to potential extension) for the preparation and submittal  
(footnote continued...)

if left unchallenged.”) (citing United States v. Pacific Coast European Conference, 451 F.2d 712, 717 (9th Cir. 1971) (under due process, a “constitutional tolling principle” prevents one from being forced to pay a statutory penalty for noncompliance with an act during the time it is being tested in good faith)). Shieldalloy cannot in good faith submit a decommissioning plan that it cannot perform.

The issue of the proper decommissioning plan for the Site was addressed during Shieldalloy's bankruptcy proceeding in the 1990s. As noted above, the company was able to emerge from bankruptcy in part as a result of the understanding that an in-situ capping method would be employed to decommission the Site. At the time, the cost of this decommissioning was estimated to be \$5 million. If excavation and removal of the material had been required during the bankruptcy, with at least an order of magnitude higher cost (e.g., \$50 million), Shieldalloy almost certainly would have liquidated rather than reorganize. It is unjust and unlawful to require a change in the decommissioning approach now; it also may well be futile in the event the company is economically destroyed as a result.

Granting the stay for the period of time that the litigation is ongoing will have no adverse impact upon public health or the environment. The source

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of a proposed decommissioning plan.

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material at the Newfield site has been safely stored in its current location and condition for more than thirty years without any engineered barrier, with the approval of the NRC, and without any adverse radiological or other consequences resulting. Indeed, the NRC recently determined that "[b]ased upon the information provided to us we have no reason to conclude that there are ongoing violations of NRC health and safety standards at the Newfield site." NRC Memorandum and Order, CLI-09-01, 69 NRC I, 3 (2009).

The granting of a stay similarly will have no adverse effect upon the integrity of the regulatory process. During the time it takes to adjudicate Shieldalloy's appeals, it is unlikely that any other company will be faced with the need to decommission a similar source material facility in accordance with the Rules. Indeed, the Department has acknowledged that the Site is the only facility pending decommissioning that would be affected by several of these regulations. 40 N.J.R. 5199 (Sept. 15, 2008).

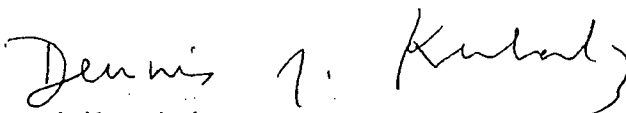
The substantial harm that would result to Shieldalloy were it obligated to submit and implement a decommissioning plan that complies with Subchapter 12, the lack of adverse impact to public health and the environment if compliance were to remain in abeyance during the pendency of existing litigation, and the balance of equities and hardships among the parties all favor maintaining the status quo until the company's judicial challenges have been adjudicated. Accordingly, we ask the Department to stay the requirement to submit a revised

Nancy Wittenberg  
November 18, 2009  
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decommissioning plan.

In conclusion, on behalf of Shieldalloy we request that the Department grant a hardship exemption in accordance with N.J.A.C. 7:28-2.8 to allow the NJDEP to approve the decommissioning plan set forth in DP Rev. 1b. Alternatively, we seek a stay of the requirement to submit a revised decommissioning plan until the litigations commenced by Shieldalloy with respect to these matters are finally adjudicated.

Very truly yours,

  
Dennis J. Krumholz

cc: Kenneth W. Elwell, Deputy Attorney General, State of New Jersey  
Shieldalloy Metallurgical Corporation  
Pillsbury Winthrop Shaw Pittman LLP



# Exhibit B

PETER VERNIERO  
Attorney General of New Jersey  
Attorneys for Respondent  
Department of Environmental Protection  
Richard J. Hughes Justice Complex  
CN 093  
Trenton, New Jersey 08625

By: Kenneth W. Elwell  
Deputy Attorney General  
(609)984-6640

STATE OF NEW JERSEY  
OFFICE OF ADMINISTRATIVE LAW  
OAL DOCKET NO. EHW 8305-88 and  
EWR 06090-89

SHIELDALLOY METALLURGICAL )  
CORPORATION AND METALLURG, )  
INC. )  
v. )  
DEPARTMENT OF ENVIRONMENTAL )  
PROTECTION. )

Administrative Action

STIPULATION OF SETTLEMENT  
AND WITHDRAWAL OF HEARING  
REQUEST

WHEREAS, the New Jersey Department of Environmental Protection (hereinafter "NJDEP" or "Department") issued an Administrative Order and Notice of Civil Administrative Penalty Assessment ("AO/NOCAPA") to Shieldalloy Metallurgical Corporation ("Shieldalloy") and Metallurg, Inc. ("Metallurg") on June 14, 1988 alleging violations of the Water Pollution Control Act, N.J.S.A. 58:10a-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E et seq., at the Shieldalloy facility in Newfield, New Jersey;

WHEREAS, Shieldalloy and Metallurg made a timely hearing request regarding the AO/NOCAPA;

WHEREAS, numerous matters raised in the 1988 AO/NOCAPA were resolved in an Administrative Consent Order ("ACO") entered October, 1988 and in two subsequent amendments to that ACO, one in August, 1989 and the second in September 1992;

WHEREAS, some issues raised in the 1988 AO/NOCAPA and contested by Shieldalloy and Metallurg and not resolved by ACO have been the subject of on-going negotiations between NJDEP and Shieldalloy;

WHEREAS, over the course of negotiations of this matter Shieldalloy has removed substantial quantities of the materials at issue and from the facility, has disposed of substantial quantities of the materials at issue off-site, and has modified its storage practices for wastes and reusable materials;

WHEREAS, NJDEP on June 26, 1987 denied Shieldalloy's request for a NJPDES Industrial Waste Management Facility permit;

WHEREAS, Shieldalloy filed a timely hearing request from that denial; and

WHEREAS, the NJDEP and Shieldalloy and Metallurg, Inc. wish to resolve these matters without further litigation; and enter into this Stipulation of Settlement and Withdrawal of Hearing request;

IT IS hereby stipulated and agreed that:

1. The unresolved issues from the 1988 AO/NOCAPA were as follows:

a. NJDEP's demand that Shieldalloy cease its storage of chromium slag alleged to be hazardous waste in piles outdoors and uncovered at the facility and agree to manage that slag as hazardous waste;

b. NJDEP's demand that Shieldalloy remove all hazardous and non-hazardous wastes stored at the site or submit a

proposal for designation of the facility as a hazardous waste facility and/or a solid waste management facility;

c. Assessment of a \$100,000 penalty for violations of the Solid Waste Management Act, the Water Pollution Control Act, and implementing regulations.

2. Shieldalloy's manufacturing processes no longer result in the production of chromium slag. If Shieldalloy resumes such production, the newly produced chromium slag will be handled in accordance with the procedures set forth in paragraph 20 e. of the 1988 ACO until such time as it is determined whether all or a portion of the slag is hazardous. Thereafter the chromium slag shall be handled in accordance with applicable requirements of the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq. and implementing regulations governing solid and hazardous wastes.

3. a. Shieldalloy will remove all FeV standard slag that has resulted from prior ferrovanadium production no later than January 31, 2001, using its best efforts to complete removal before that date.

b. No later than 30 days after entry of this Stipulation Shieldalloy will provide to NJDEP a status report showing:

- (1) the amount of FeV slag removed to date,
- (2) an estimate of the amount of slag left on site,
- (3) confirmation of receipt of the FeV slag by those to whom it was shipped,

(4) the use to which it is to be put by each recipient.

c. Commencing six months after submission of the foregoing status report, and every six months thereafter, Shieldalloy will report to NJDEP:

- (1) the amount of FeV slag removed during the previous six months;
- (2) the estimated amount of FeV slag remaining on-site; and
- (3) describing in reasonable detail Shieldalloy's efforts to remove the FeV slag during the prior six months, its anticipated efforts for the next six months, and the amount of FeV slag Shieldalloy expects to remove within the next six months.

d. "Fines" (meaning fine particles) generated in any crushing or loading operation of the FeV standard slag will be addressed in the soil remediation conducted by Shieldalloy under the 1988 ACO.

e. If Shieldalloy resumes production of ferrovanadium alloy and the co-product slag the new ferrovanadium slag will be managed as any of SMC's products. It will be stockpiled and managed in accordance with SMC's Discharge Prevention Control and Countermeasure/Discharge Containment and

Removal Plan (DPCC/DCRP) and Stormwater Pollution Prevention Plan (SPPCP). The new ferrovanadium slag may be marketed and sold as a slag fluidizing agent for use in the production of high quality steel, and may be marketed for other beneficial uses as may be developed in the future. If Shieldalloy resumes production of ferrovanadium alloy Shieldalloy shall report to NJDEP every six months:

- (1) the amount of FeV slag removed during the previous six months;
- (2) the estimated amount of FeV slag remaining on-site; and
- (3) describing in reasonable detail Shieldalloy's efforts to remove the FeV slag during the prior six months, its anticipated efforts for the next six months, and the amount of FeV slag Shieldalloy expects to remove within the next six months.

4. The FeV slag that has resulted from prior ferrovanadium production has been or will be screened for radiation prior to crushing or loading for removal. Any slag showing radiation levels greater than two times background has been or will be returned to the FeCb pile. The radiation content of the material which does not show such elevated background levels has been or will be verified prior to shipping through crushing as necessary to assure appropriate density for reliable gamma

spectroscopy per EPA SW method 846 and subjected to isotopic analysis. Only material with levels below the regulatory limits for source material and not contaminated with other materials having concentrations of radioactivity higher than the FeV slag may be removed. The health and safety procedures outlined in the Hilbert Associates Work Plan of October 1992 (attached hereto as Exhibit 1) or other plan which is equally protective of human health and the environment in accordance with applicable law are to be followed during excavation, crushing and removal operations, unless those procedures are modified as approved by the NRC, in which case the procedures as modified are to be followed.

5. All D115 furnace cleanout and D107 furnace cleanout properly classified as ID 27 Waste must be stored under cover and on a concrete or asphalt surface, or in enclosed rolloffs or dump trailers, to prevent contact with the weather and any deleterious effect on human health and the environment. These materials must be disposed of at the end of each cleanout operation at the Gloucester County Solid Waste Complex, or lawfully disposed of elsewhere within six months of generation. D115 furnace cleanout which will be re-used at Shieldalloy's Cambridge, Ohio facility may be stored for no longer than three months.

6. Furnace cleanout or other material which meets regulatory definitions of hazardous waste must be stored and disposed of as hazardous waste in accordance with regulatory requirements.

7. The D115 lime flume stored in the silo which is a component of the Department 115 air pollution control equipment may be stored in the silo for up to 18 months if it is more efficient to arrange for disposal when the silo is nearly full. Shieldalloy agrees to be vigilant about accumulated amounts to ensure that the lime flume on hand does not exceed silo capacity.

8. Trash, debris and other waste is not to remain on-site for more than six months. However, useable wooden pallets and structural steel and equipment such as large furnace shells and slag crusher which are suitable for continued use and are likely to be used by Shieldalloy may remain on-site for more than six months provided they pose no threat to human health or the environment.

9. Used or damaged pieces of cast iron equipment, including pig molds, which are to be sold back to the foundry for their scrap iron value may be accumulated on-site until a truckload is obtained, even though such accumulation may take more than six months, provided all these materials are free from alloys, slags or other contamination, and pose no threat to human health or the environment.

10. Bi and co-products or any other materials which will actually be used by Shieldalloy as raw materials may be stored on-site for longer than a six month period if they are containerized and stored under cover and out of the weather and in a manner protective of human health and the environment. Materials which will be used by Shieldalloy as raw materials or are genuinely



saleable may be stored on-site in the pole building for longer than six months if necessary.

11. If the presence of FeV slag or any other waste or reusable material stored on site has a deleterious or potentially deleterious impact on human health or the environment, NJDEP reserves the right to require Shieldalloy to remove that material or store it in a manner protective of human health and the environment and to require Shieldalloy to remediate the area in accordance with federal, state and local requirements. None of the provisions of this Stipulation is intended to relieve Shieldalloy of any of its obligations to comply with Discharge Prevention Control and Countermeasure/Discharge Control or stormwater permitting requirements.

12. NJDEP and Shieldalloy have agreed to settle the \$100,000 penalty assessed in the AO/NOCAPA for a payment as set forth in Paragraph 9 of the Settlement Agreement of Environmental Claims entered into between NJDEP and Shieldalloy in Metallurg, Inc. and Shieldalloy Metallurgical Corporation, United States Bankruptcy Court, Southern District of New York, Nos. 93-B 44468 (JLG) and 93-B 44469 (JLG).

13. Wastes regulated by the Nuclear Regulatory Commission are to be stored and managed in accordance with NRC requirements. NJDEP reserves the right to require that Shieldalloy address and remediate any and all impacts on or risks posed to human health or the environment by storage of NRC regulated materials at the facility.

14. Shieldalloy shall continue groundwater monitoring in accordance with NJDEP's letter of May 26, 1994 (attached hereto as Exhibit 2) as confirmed by Shieldalloy's letter dated June 2, 1994 (attached hereto as Exhibit 3), or as otherwise may be agreed to between NJDEP and Shieldalloy.

15. This Stipulation is not intended to change in any way the requirements and terms of the 1988 ACO, as amended, or affect any requirement that Shieldalloy obtain any permit which may be required for its activities at the site.

16. This Stipulation is a compromise settlement of disputed claims entered into to avoid litigation. Neither Shieldalloy's entry into this Stipulation nor any payments or conduct of Shieldalloy hereunder shall constitute any admission of fact, fault, liability, wrong-doing or unlawful conduct by Shieldalloy with respect to the matter settled herein.

17. This Stipulation is intended to be a settlement only of the violations alleged in the 1988 AO/NOCAPA and left unresolved as set forth in paragraph 1 above and shall not constitute a settlement of any potential or pending administrative or judicial actions against this or any other Shieldalloy facility not referenced in this Stipulation.

18. Nothing herein shall constitute a waiver of any statutory or regulatory rights of NJDEP or preclude NJDEP from commencing any other enforcement action which it is authorized under the law of the State to bring against Shieldalloy, or Metallurg except with respect to the alleged violations resolved

herein, or of Shieldalloy's or Metallurg's right to defend against any such action. This Stipulation is enforceable as a final agency order in an action filed in Superior Court of the State of New Jersey.

19. Shieldalloy and Metallurg hereby withdraw with prejudice the request for an administrative hearing challenging the June 14, 1988 AO/NOCAPA.

20. Shieldalloy and Metallurg withdraw with prejudice the request for a hearing on the June 30, 1987 denial of its application for an Industrial Waste Management Facility NJPDES permit.

21. This Stipulation shall be binding upon and inure to the benefit of the signatories, NJDEP, Shieldalloy and Metallurg, their successors in interest and assigns.

CHARLES LEE HARP, JR., ESQ.  
ARCHER & GREINER  
Attorney for Shieldalloy  
Metallurgical Corporation and  
Metallurg, Inc.

Dated: 10/29/97

By: 

Charles Lee Harp, Jr., Esq.

PETER VERNIERO  
ATTORNEY GENERAL OF NEW JERSEY  
Attorney for Department of  
Environmental Protection

Dated: 10/17/87

By: 

Kenneth W. Elwell  
Deputy Attorney General

# Exhibit C



State of New Jersey  
Department of Environmental Protection and Energy

Robert C. Shinn, Jr.  
Commissioner

MAY 26 1994

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED  
NO. P 261 029 131

C. Scott Eves  
Vice President of Environmental Services  
Shieldalloy Metallurgical Corporation  
P.O. Box 768  
Newfield, NJ 08344

reference to Smith 6/2/94  
said sampling was a bit  
with July sampling please

Re: Ground Water Monitoring of the Slag Management Area  
OAL Docket No. EHW 08305-88S

Dear Mr. Eves:

The Department of Environmental Protection and Energy (NJDEPE) is in receipt of Shieldalloy Metallurgical Corporation's (SMC) proposal for ground water monitoring in the slag management area dated April 11, 1994 (enclosed). The proposal was submitted as part of the settlement negotiation OAL Docket No. EHW 08305-88S. Upon review, NJDEPE finds the proposal to be acceptable contingent upon the following:

1. SMC shall commence the ground water monitoring within 30 calendar days of receipt of this letter, and
2. SMC shall submit the ground water data along with a brief summary report to NJDEPE on or before the last calendar day of the month following sample collection and analysis.

If you have any questions, you may contact me at (609) 633-1455.

Sincerely,

Donna L. Gaffigan, Case Manager  
Bureau of Federal Case Management

Enclosure

C: George Nicholas, BGWPA  
Kenneth Elwell, DAG



SHIELDALLOY METALLURGICAL CORPORATION

WEST BOULEVARD  
P O BOX 768  
NEWFIELD, N.J 08344

TELEPHONE (609) 692-4200  
TWX (510) 697-8918  
FAX (609) 692-4017

ENVIRONMENTAL DEPARTMENT FAX  
(609) 697-9025

DAVID R. SMITH  
DIRECTOR OF ENVIRONMENTAL SERVICES

April 11, 1994

Donna L. Gaffigan  
Case Manager  
Bureau of Federal Case Management  
State of New Jersey  
Department of Environmental Protection and Energy  
Division of Responsible Party Site Remediation  
CN-028  
401 East State Street  
Trenton, New Jersey 08625-0028

Certified Mail: P 233 598 909  
Return Receipt Requested

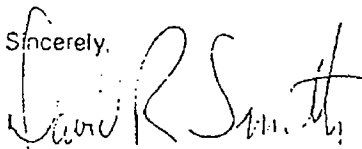
Re: Groundwater Monitoring of the Slag Management Area;  
Shieldalloy Metallurgical Corporation  
OAL Docket No. EHW 08305-88S

Dear Ms. Gaffigan:

Please find enclosed a copy of Shieldalloy Metallurgical Corporation's (SMC's) proposed plan for the subject monitoring. SMC believes the enclosed proposal addresses the New Jersey Department of Environmental Protection and Energy's concerns as outlined in D.A.G. Kenneth W. Elwell's February 10, 1994 letter to Charles L. Harp, Jr. Esq. (SMC's counsel).

This proposal was developed for the groundwater monitoring wells and the metal constituents which were delineated by you during the June 11, 1993 meeting in your office. The duration of the initial sampling program is consistent with what SMC proposed on November 16, 1993, but has been slightly modified to comply with the USEPA's April 1989 Interim Final Guidance document Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities.

If you have questions concerning this matter, please do not hesitate to contact James P. Valenti or myself.

Sincerely,  
  
David R. Smith

DRS:lms  
Enclosure

cc: w/enclosure  
C. Scott Eves  
James P. Valenti  
Larry Anderson  
Lidia M. Stasiuk  
Charles L. Harp, Jr., Esq., Archer & Greiner

## GROUNDWATER MONITORING

Ref: (a) Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance; Office of Solid Waste, U.S. Environmental Protection Agency; April 1989

SMC agrees to conduct four independent sample collection episodes on a semi-annual basis in accordance with § 7. CONTROL CHARTS FOR INTRA WELL COMPARISONS [of reference (a)] on WELLS SC11S(R), SC12S, SC12D, SC13S, SC13D, SC14S, SC25S, and W2(R). Each groundwater sample from those wells will be analyzed for the following metals: aluminum, vanadium, nickel, and boron. The purpose of this *expanded groundwater monitoring program* is to determine if and/or assure that the current by-product material storage practices are not adversely impacting the groundwater near SMC's Material Storage Yard.

The data will be plotted as recommended in § 7.1, making appropriate adjustments for seasonality once the first year's data is in place. This adjustment will be accomplished utilizing the simple method described in § 7.2 CORRECTING FOR SEASONALITY. Any measurements of a particular chemical constituent which is below detection limits will be handled for the purpose of plotting a control chart as prescribed by § 7.5.

SMC will use a combined *Shewhart - CUSUM* control chart method to plot the data in accordance with § 7.3. This method will be used for each well and for each chemical constituent.

If no trends are detected after a two year period, SMC will discontinue sampling.

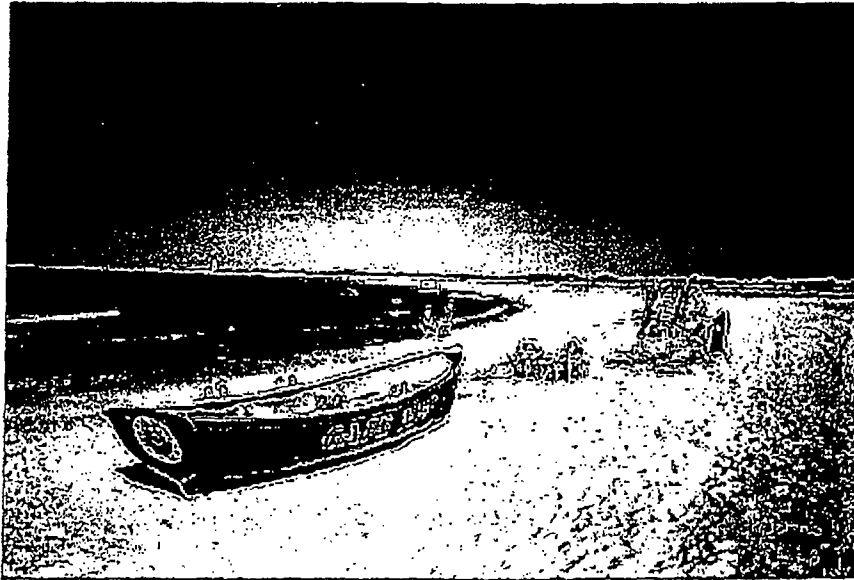
However, if after two years the data exhibits any significant trend(s) or "out of control" situation(s), SMC proposes to continue sampling, re-evaluate the meaning of the data, and develop a plan of action. As cautioned per § 7.2 of the guidance document any corrections to and/or interpretation of the data and trends may require assistance from a professional statistician. Therefore, if continued sampling is deemed necessary, SMC suggests that an independent environmental statistician be consulted through mutual agreement by SMC and NJDEPE. The independent statistician's recommendation would then be used by the NJDEPE and SMC to formulate an appropriate plan of action.

# Exhibit D





STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



NEW JERSEY  
AGREEMENT STATE APPLICATION  
SECTIONS 4.1 & 4.2

## HISTORY

### RADIATION PROTECTION

On December 15, 1952, a public hearing was held and Chapter I on Radiation was adopted as part of the State Sanitary Code. The first regulations promulgated under the Chapter concerned the operation of fluoroscopic shoe fitting machines. These regulations were filed with the Secretary of State on December 31, 1952, and the Radiological Health Program of the Bureau of Adult and Industrial Health was instituted. Regular inspections of fluoroscopic shoe fitting machines began in 1953 and in that year, 90 machines were surveyed. In addition, the Radiological Health Program inspected 10 TB x-ray machines and accompanied Atomic Energy Commission (AEC) representatives on several AEC radioisotope inspections in New Jersey.

The Radiological Health Program began environmental monitoring for radiation in March of 1955 when background radiation measurements were made from air samplers at the Trenton Fair Grounds located in Hamilton Township a suburb of Trenton. By April 1956, sufficient office space had been acquired for the operation of more laboratory counting and air sampling equipment, and air sampling became a routine operation for the Program. Background data was obtained before the Pacific test series (nuclear detonation testing) began.

Since the start of the Radiological Health Program, fluoroscopic shoe fitting machines were slowly being phased out. Owners of these machines became aware of the hazards of unnecessary radiation exposure and by June 1957, only one known unit was still in operation in New Jersey. The use of fluoroscopic shoe fitting machines was

prohibited by the New Jersey Radiation Protection Code in 1962. The Radiological Health Program expanded its inspections of x-ray producing machines, particularly of mass screening x-ray units. Environmental surveillance continued to expand as did the number of joint State-AEC inspections.

In July 1958, the Radiation Protection Act was signed by the Governor, and the Radiological Health Program became part of the Division of Environmental Health in the Department of Health. Within three months, the Commission on Radiation Protection (Commission), instituted by the Act, was appointed and held its first meeting. Also in 1958, an extensive radiological health survey of dental x-ray units in Mercer County was completed.

With the appointment of its members, the Commission wasted no time in the promulgation of regulations. Various medical societies in New Jersey were notified of the formation of the Commission and were asked to provide their expertise to aid Commission in writing a Radiation Protection Code. Registration forms were developed and beginning November, 1959, x-ray machines in the state were to be registered with the Radiological Health Program. Within 14 months, 6,581 x-ray units had been registered.

With the registration of x-ray machines well under way, the registration of radioactive material started in April, 1960. The Commission began to consider the transfer of control of radioactive material from the Atomic Energy Commission to the State of New Jersey. With that in mind, the New Jersey Radiation Protection Code was developed and after a public hearing in September 1960, Chapter I, which dealt with general requirements for radiation protection, was adopted.

Throughout the late 50's and 60's, the Radiological Health program expanded its activities by presenting many lectures and training courses on radiation protection to Civil Defense, police and firemen. Many presentations were given to professional and special interest groups in the State.

By the end of 1961, the state legislature passed Assembly Bill No. 511 enabling New Jersey to proceed to assume control of licensing from the Atomic Energy Commission. In addition, Chapter II of the Code was adopted. Chapter II dealt with special requirements for radiation protection. Its jurisdiction included medical and industrial installations, as well as major nuclear facilities. The inspection program was beefed up with the addition of summer students and assignees from the Public Health Service. In addition, 2 new permanent employees were assigned to field work.

In February 1962, a study was completed by the Radiological Health program on the training of operators of industrial x-ray machines. In October of that year, the Commission gave thought to the licensing of x-ray technicians. It was not until two years later, August 1964 that questionnaires were sent out soliciting information on the education and experience of x-ray technicians operating diagnostic medical equipment. From 1964 to 1968, the Commission worked on the regulation of medical x-ray technicians.

In 1968, New Jersey Legislature passed the Radiologic Technologist Act (N.J.S.A. 26:2D-24 et seq). This Act created the Radiologic Technology Board of Examiners an agency of the Commission on Radiation Protection with the authority to license operators of ionizing radiation producing equipment used on humans and accredit schools of radiologic technology. In 1984, the Commission promulgated N.J.A.C. 7:28-

19 (Subchapter 19) entitled "Medical Exposure to Ionizing Radiation by Radiologic Technologists." This Subchapter established the Board's educational and licensure requirements, as well as delineating the scope of practice, for persons engaging in the practice of radiologic technology and the accreditation standards for schools of radiologic technology. In 1985 and 1987, the Subchapter was revised to reflect amendments to the Radiologic Technologist Act.

In the early 1960's, the environmental sampling program was expanded to include 120 surface water locations. Air sampling in the vicinity of Trenton continued, as well as milk sampling from locations around the state.

Although for three years, the Commission had been working with the AEC on Agreement State status, the Commission, in September 1964, finally decided against assuming AEC licensing because of unresolved differences. In October of that year, revisions of the Code to reflect increasing technological advances were adopted. By February 1965, the Department of Health began licensing the possession and use of all radioactive materials not subject to AEC control.

With public hearings beginning on the construction of the first nuclear powered reactor in New Jersey, the Radiological Health Program acquired a nuclear engineer in February 1965. The nuclear engineer had major responsibilities for nuclear facilities surveillance. Oyster Creek Nuclear Generating Station began commercial operation on December 23, 1969.

In June 1965, the Radiological Health Program took possession of its first radium source. It was transferred from a physician who no longer desired to possess and use such a source. The Program continued to accept radium at no charge from any physician



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February 11, 2011

Andrew L. Bates, Acting Secretary  
U.S. Nuclear Regulatory Commission  
Office of the Secretary  
Washington, DC 20555-0001

Re: In re Shieldalloy Metallurgical Corp. (License  
Amendment Request for Decommissioning of the  
Newfield, NJ Site)  
Docket No. 40-7102-MLA

Dear Secretary Bates:

Enclosed please find six copies of the State of New Jersey's reply to Shieldalloy's February 4, 2011 submission in the above referenced matter, exhibits and certification of service. Electronic versions have been filed.

Respectfully submitted,

PAULA T. DOW  
ATTORNEY GENERAL OF NEW JERSEY

By: 

Andrew D. Reese  
Deputy Attorney General

Enc.

