

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

ATOMIC SAFETY AND LICENSING BOARD PANEL

'99 FEB 19 A9:35

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

In the Matter of)
) Docket No. 40-8948-MLA
SHIELDALLOY METALLURGICAL)
CORP.) ASLBP No. 99-760-03-MLA
)
(Cambridge, Ohio Facility))

CERTIFICATE OF SERVICE

I hereby certify that copies of A LETTER TO MR. JAMES VALENTI, SHIELDALLOY METALLURGICAL CORPORATION, dated February 16, 1999, with the subject "AMENDMENT NO. 5" and associated papers have been served on the following by deposit in the United States mail, first class; or as indicated by a single asterisk through deposit in the Nuclear Regulatory Commission's internal mail system this 18th day of February 1999:

Administrative Judge*
G. Paul Bollwerk, III, Presiding Officer
Atomic Safety and Licensing Board
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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
FAX: 301-415-5599

Administrative Judge*
Thomas D. Murphy, Special Assistant
Atomic Safety and Licensing Board
Mail Stop: T-3 F23
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
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Michael Bruce Gardner, Esq.
22132 Westchester Road
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Atomic Safety and Licensing
Board Panel*
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Washington, D.C. 20555

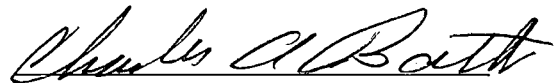
Office of Commission Appellate
Adjudication*
Mail Stop: O-16 C1
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

James P. Valenti
Radiation Safety Officer
Shieldalloy Metallurgical Corporation
12 West Boulevard
P.O. Box 768
Newfield, New Jersey 08344

20003

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Washington, D.C. 20555

Office of the Secretary (2)*
ATTN: Rulemaking and
Adjudications Staff
Mail Stop: O-16 C1
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

A handwritten signature in cursive script, reading "Charles A. Barth".

Charles A. Barth
Counsel for NRC Staff



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 16, 1999

DOCKETED
USNRC

'99 FEB 19 A9:35

Mr. James Valenti
Shieldalloy Metallurgical Corporation
12 West Boulevard
New Field, NJ 08344

OFFICE OF SECRETARY
RULEMAKING AND
ADJUDICATIONS STAFF

SUBJECT: AMENDMENT NO. 5 TO NUCLEAR REGULATORY COMMISSION LICENSE
NO. SMB-1507 FOR POSSESSION OF RADIOACTIVE SOURCE MATERIAL AT
THE SHIELDALLOY CAMBRIDGE, OHIO, FACILITY

Dear Mr. Valenti:

In a letter dated September 14, 1998, you asked that we amend the subject license to permit the receipt and placement of off-site slag/soil from a temporary staging area onsite to the west slag pile. You also provided an analysis to justify this action. Cyprus Foote Mineral Company (CFMC), a previous owner of your facility, had collected this off-site material from residential properties in Guernsey County, Ohio, and has been storing it in a staging area leased from your company on the Shieldalloy property. Your amendment request is for Nuclear Regulatory Commission (NRC) to authorize transfer control of this material from CFMC to Shieldalloy, and to combine the material with the slag that is already being stored onsite.

We have determined that your request for authorization to receive the "off-site" slag is acceptable. We have also determined that placement of the slag on the west slag pile is already authorized under your license and no amendment is necessary to move the material from one location on-site to another. In addition, and at our initiative, we have amended three other license conditions that contained obsolete requirements. We have enclosed the amended license and our safety and environmental review documentation. Before you place material on the west slag pile, we request that you submit a work plan, as referenced in your application to NRC, at least 30 days in advance of the movement of slag, and state when you expect to begin on-site work.

This amendment revises license conditions 11, 13, 14, and 15, as described below:

11. This condition now indicates that the site can be released for "restricted use," consistent with NRC's July 21, 1997, license termination rule. Previously, the condition allowed for "unrestricted use" only after license termination. This condition has also been revised to authorize the transfer of slag from CFMC to Shieldalloy and to limit the amount of slag under this particular amendment to 10,000 cubic yards. The license condition requires that the slag be separable and retrievable from the west slag pile.
13. As in 11, we have added "restricted use" as a possibility for the future release of the site, consistent with our July 21, 1997, license termination rule.
14. We have changed the previous date for submittal of the decommissioning plan (within six months of NRC's issuance of record of decision on its environmental impact statement (EIS)) to within six months of the issuance of this amendment. NRC notified Shieldalloy

last year that a record of decision would not be issued until after a decommissioning plan was submitted. Thus, the license condition could no longer be met.

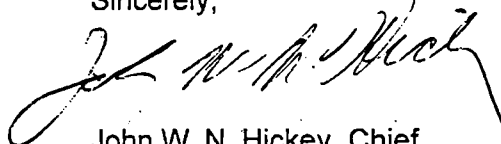
15. We have added as a reference your September 14, 1998, submittal that initiated this license amendment.

As you know, Ohio has applied to NRC to become an Agreement State, whereby NRC would relinquish regulatory authority for certain activities, including the Shieldalloy license. We expect to sign our formal agreement with Ohio later this year, at which time the Ohio Department of Health (ODH) will assume Atomic Energy Act regulation of Shieldalloy. We have coordinated this review with ODH to ensure that their concerns with this particular amendment have been addressed.

We also coordinated this review with the Ohio Environmental Protection Agency (OEPA). In a November 25, 1998, letter to NRC that was copied to you, OEPA provided comments on your license amendment request, including one concerning storm water control measures. You should obtain whatever OEPA or other State or local government approvals might be required before placing the slag in storage onto the west pile.

If you have any questions, please call James Kennedy of my staff at 301-415-6668.

Sincerely,



John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 040-8948
License No. SMB-1507

Enclosures:

1. Amendment No. 5 to SMB-1507
2. Safety Evaluation Report
3. Categorical Exclusion, 10 CFR 51.22(c)(11)

cc (w/encl): Cambridge distribution list

MATERIALS LICENSE

Amendment No. 5

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		3. License Number	SMB-1507 Amendment No. 5
1.	Shieldalloy Corporation Division of Metallurgical Corp.	4. Expiration Date	June 30, 2000
2.	12 West Boulevard New Field, NJ 08344	5. Docket or Reference No.	040-08948

Byproduct, Source, and/or
Special Nuclear Material7. Chemical and/or Physical
Form8. Maximum Amount that Licensee
May Possess at Any One Time
Under This License

A. Uranium and Thorium

A. See Item 9.A.

A. See Item 9.A.

9. Authorized use: To be possessed as a contaminant in slag from previous alloy furnace operations..

CONDITIONS

10. Licensed material shall be stored at the facilities and properties of the licensee located at Route 209 South, Cambridge, Ohio.
11. The licensee shall limit actions involving source material to those related to decontamination and other activities related to preparation for release of facilities and/or properties for unrestricted or restricted use. Offsite slag from previous alloy furnace operations may be transferred to the licensee for storage, shall not exceed 10,000 cubic yards in volume and shall be separable and retrievable from the west slag pile.
12. DELETED
13. The licensee shall prevent access to contaminated areas until they are suitable for release for restricted or unrestricted use.
14. The licensee shall submit a decontamination/decommissioning plan to the U.S. Nuclear Regulatory Commission, Chief, Low-Level Waste and Decommissioning Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, within six months of the date of issuance of Amendment 5 to this license.
15. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

SMB-1507

Docket or Reference Number

040-08948

Amendment No. 5

procedures contained in the documents including any enclosures, listed below. NRC's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

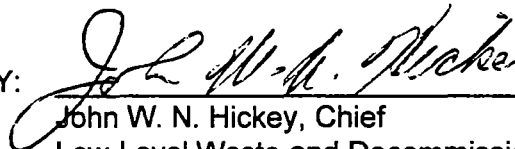
- A. Letter dated May 8, 1987.
 - B. Letter dated May 21, 1992.
 - C. Letter dated November 14, 1994.
 - D. Letter dated December 22, 1994.
 - E. Letter dated May 21, 1996
 - F. Letter dated August 15, 1997
 - G. Letter dated September 14, 1998.
16. The license expiration date of June 30, 1996, for completion of decommissioning activities at Route 209 South, Cambridge, Ohio, shall be extended to June 30, 2000.
17. Licensed material shall be possessed under the supervision of the Radiation Safety Officer (RSO), James P. Valenti.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

DATE:

2/12/99

BY:


John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

DOCKET NO: 040-8948

LICENSEE: Shieldalloy Metallurgical Corporation

FACILITY: Cambridge, Ohio facility

SUBJECT: SAFETY EVALUATION REPORT, LICENSE AMENDMENT
APPLICATION DATED SEPTEMBER 14, 1998

1. Introduction

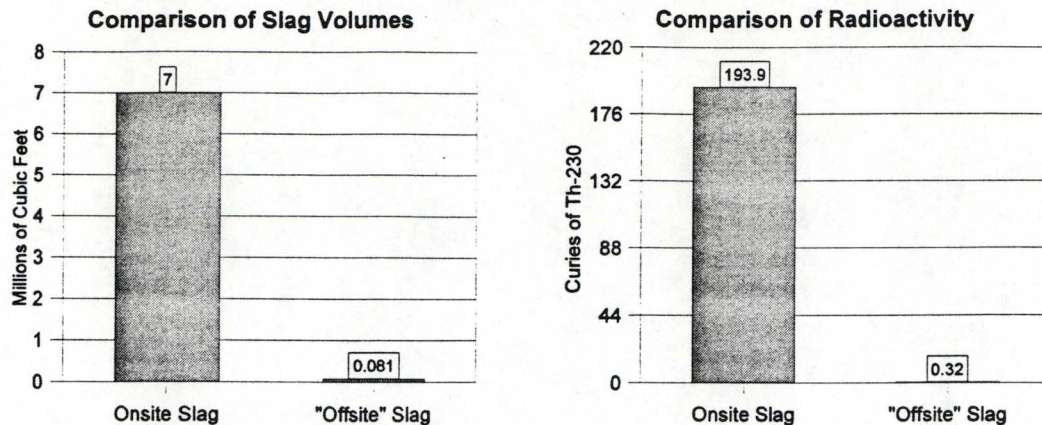
Shieldalloy Metallurgical Corporation (Shieldalloy) holds U.S. Nuclear Regulatory Commission (NRC) license SMB-1507 for the possession of radioactive source material at its Cambridge, Ohio, facility. Since 1953, the Cambridge plant has produced metal alloys for commerce, and slag has been a byproduct of these operations. Some of the slag contains above-background levels of radioactivity. It was produced from ores and other raw materials containing above-background levels of radioactive elements, especially uranium and thorium, or source material. During processing of the ores into metal alloys, these radionuclides were incorporated into the slag. Shieldalloy has also produced other slag from non-radioactive ores, and has been recycling these materials. The radioactive slag, however, is stored on-site in two piles having a combined volume of approximately seven million cubic feet and covering approximately 11 acres of land. Another approximately 80,000 cubic feet, or roughly 1% of the slag on-site, is being stored in a separate "staging area" on-site, is under the control of Cyprus Foote Mineral Company (CFMC), and is the subject of this amendment request.

In 1988, CFMC purchased a previous owner of the Cambridge facility, Foote Mineral Company (FMC), that operated the plant from 1967 until it was sold to Shieldalloy in 1987. In the 1970s and 1980s, and while Foote Mineral owned the plant, some of the radioactive slag on-site was given away to be used as construction fill material in driveways and foundations in the Guernsey County area. In 1994, CFMC, in consultation with the State of Ohio and NRC, implemented a program to identify the properties containing this slag, to evaluate the hazards associated with the slag, and, where necessary, remove material from properties.¹ CFMC remediated certain properties with off-site material during the summer of 1997, and returned slag to a small area it leased on the Shieldalloy property, less than 100 yards from the west slag pile. CFMC removed and stored the on-site material under an Ohio Department of Health (ODH) Administrative Order issued on July 18, 1997. These activities were not conducted by Shieldalloy under its NRC license, since the license applies only to material both on-site and in the possession of Shieldalloy.

In this amendment request, Shieldalloy proposes to assume responsibility for the slag in the staging area from CFMC, and to move it approximately 100 yards to the existing west slag pile. NRC approval of this action would eliminate the need for CFMC to control the material under the existing ODH Administrative Order, provide for a single organization to be responsible for all of the slag, consolidate the material into one location, and return the material to where it originally came from.

¹ See December 19, 1997, letter from John Hickey, NRC, to Roger Suppes, Ohio Department of Health for an overview of offsite slag concerns and how they have been addressed.

The amount of "offsite" material currently stored on-site is a small fraction of the total amount covered by the existing the license, as shown in the charts below comparing slag volumes and



radioactivity of the principal radionuclide, thorium-230. The average concentration of this radionuclide is 126 pCi/g in the offsite slag, and 285 pCi/g in the west slag pile. The offsite slag is mixed with soil from excavating driveways, thus lowering its average concentration below that in the west pile.

Shieldalloy expects to submit a decommissioning plan in the near future that will address how all of these materials will be permanently dispositioned so that the NRC license can be terminated. NRC staff has already conducted extensive analyses of decommissioning alternatives in a draft Environmental Impact Statement (EIS)² for the Cambridge facility. The EIS includes an analysis of the placement of offsite slag from properties in the Guernsey County area onto the west pile. NRC preliminarily concluded in the draft EIS that Shieldalloy's proposal to stabilize the piles and their residual radioactivity in place was acceptable. The proposal included an alternative whereby 10,000 cubic yards of offsite slag would be placed on the west slag pile. The slag piles would be stabilized in place, and land use at the site limited in the future through the use of institutional controls (in accordance with the new "restricted use" provisions in 10 CFR 20.1403). The final conclusion on disposition of the slag piles will not be made until Shieldalloy submits a decommissioning plan and the regulatory review is completed, however.

Shieldalloy's current amendment request simply addresses the transfer of responsibility for the offsite slag and consolidating it onto an existing slag pile at the site. Our conclusions on that request contained here do not affect the ultimate disposition of the slag—i.e., whether it will be included as part of the residual radioactivity that can remain on-site in accordance with 10 CFR 20.1403, or whether it would require permanent disposal in a 10 CFR Part 61 low-level radioactive waste disposal facility. In this review, we have considered the possible

² U.S. Nuclear Regulatory Commission, Draft Environmental Impact Statement, Decommissioning of the Shieldalloy Metallurgical Corporation Cambridge, Ohio, Facility, NUREG-1543. July 1996.

consequences of this action on the future decommissioning of the site, but we make no findings or commitments regarding future decommissioning actions to be taken by Shieldalloy.

This action also does not preclude return of additional material to the site at some future time. In fact, we have increased the amount authorized for transfer to Shieldalloy from approximately 1% of the total volume in the piles to approximately 3% (or 10,000 cubic yds) to be consistent with our analysis in the draft EIS. CFMC is currently considering the return of additional material from at least one offsite property, and allowing for up to 10,000 cubic yds with this amendment will hasten the return of that material to the site where it will be under license. Shieldalloy could request that even greater amounts of material be permitted to return to the site, but would have to submit another amendment request to do so.

In addition to amending the license to authorize the transfer of offsite slag, the staff is amending three license conditions at this time that contain obsolete administrative information.

2. Discussion

2.1 Licensee Proposal

The licensee proposes to accept responsibility from CFMC for slag retrieved from offsite locations and to place it on the west slag pile for storage.

2.1.1 Staff Evaluation

For the first part of this request, Shieldalloy would become responsible for the management of the offsite slag material currently stored in the on-site staging area leased and controlled by CFMC. Under this part of the request, no material would be moved, only the responsibility for its safe management would change. The existing license does not specifically authorize this transfer.

In evaluating this request, we considered whether Shieldalloy would be accepting source materials different from those currently on-site, or performing activities different from those already authorized under license. Shieldalloy is authorized under its existing license to manage these kinds of slag materials. In fact, the material that will be transferred to them from CFMC was originally on-site and managed with the rest of the slag, but was given away to property owners for use as a construction material. This licensing action would return the responsibility for the slag to the current site owner and license holder, Shieldalloy, and control the material with the rest of the slag that is under license. The additional material from CFMC is a small fraction of that currently under license, is chemically and physically similar to the material now on-site in the west slag pile, and falls within the types of materials covered by the existing license ("uranium and thorium . . . as a contaminant in slag from previous alloy furnace operations"). The staff finds this portion of the request for amendment acceptable and existing license condition 11 is being revised to specifically authorize this transfer of responsibility.

For the second part of the request, placement of the material onto the west slag pile, once the material becomes the responsibility of Shieldalloy, the licensee is authorized under its existing license to perform these kinds of activities (i.e., placing slag on the west pile) that are related to preparing the site for decommissioning. License condition 11 now states, "The licensee shall limit actions . . . to those related to decontamination and other activities related to preparation for release of facilities and/or properties for unrestricted use." Shieldalloy must perform this work under a 10 CFR Part 20 radiation protection program to ensure that workers and the public are adequately protected from the effects of ionizing radiation. This movement of slag approximately 100 yards is typical of the kinds of activities that are currently authorized and that Shieldalloy has performed over the past 10 years in preparing the site for decommissioning work. We are requesting that Shieldalloy submit a work plan for this effort at least 30 days before any on-site work is performed. We will review the work plan and may conduct an on-site inspection when the work is performed. However, no change in the existing license is necessary to place the material on the west slag pile.

Although the licensee requested that the amount to be transferred be only that which is currently stored in the staging area (3000 cubic yds or about 1% of the total volume and 0.15% of the radioactivity of slag currently on-site), we have evaluated a larger amount in this SER (10,000 cubic yds) consistent with the amount considered in our draft EIS. This amount is approximately 3% of the total stored in the east and west slag piles currently on site. The draft EIS (page 4-42) found that the addition of 10,000 cubic yds had no effect on the radiation dose to an off-site member of the public. In all cases, the 6 mrem/yr dose is well within the 25 mrem/yr limit in NRC's license termination regulations in 10 CFR Part 20, Subpart E. For a member of the public who is postulated to farm on-site, the draft EIS (page 4-40) calculates an increase in radiation dose to that person from 36 mrem/yr to 42 mrem/yr, both well within the 100 mrem/yr restricted use criterion in Subpart E of 10 CFR Part 20. This additional material would also be initially controlled under an Ohio Administrative Order by CFMC.

As noted earlier, the draft EIS contains preliminary findings which could change when the decommissioning plan to be submitted by Shieldalloy is reviewed by the regulatory agency. For this reason, Shieldalloy has committed to make the offsite material separable and retrievable from the west slag pile, in the event that future analysis shows that it must be removed from the site for the license to be terminated. The existing analysis, however, shows minimal increases in radiation doses to members of the public from this additional material.

2.2 NRC Staff Initiated Changes

In addition to this amendment to the license, there are three obsolete administrative conditions that the staff is revising.

2.2.1 Inclusion of restricted site use as a decommissioning option

On July 21, 1997, NRC promulgated new regulations for decommissioning in 10 CFR Subpart E, "Radiological Criteria for License Termination." These new regulations allow for both unrestricted use and restricted use of a site under certain specified conditions when a license is terminated. Restricted use was not authorized under the previous regulations. Existing license conditions 11 and 13, which were specified in this license before the promulgation of Subpart E,

10 CFR Part 20, refer to the release of property for unrestricted use only, and are now being revised to include the possibility of restricted use.

2.2.2 Schedule for submission of a decommissioning plan

Existing license condition 14 states that the licensee should submit a decommissioning plan to NRC within six months from the issue date of the record of decision for the EIS. In a March 4, 1998, letter to Shieldalloy, the staff stated that it would not conduct further work on the environmental review (and thus not be publishing a record of decision for the EIS) until it received a formal license amendment request stating the proposed decommissioning alternative. Shieldalloy expects to submit the proposed alternative in a decommissioning plan in the near future.

Shieldalloy has been considering recycling the east slag pile, rather than disposing of it offsite or leaving it as residual radioactivity on-site with restricted release. On November 19, 1997, the licensee submitted a technical report analyzing the dose consequences of recycling "East Pile slag." We provided the results of our review in our October 13, 1998 letter, and Shieldalloy is in the process of deciding which alternative to propose in its decommissioning plan. We have revised the license condition to require the submission of the decommissioning plan within six months of the date of issuance of this amendment.

3. Conclusions

We have evaluated Shieldalloy's proposal to accept responsibility for off-site slag and to place it on the west slag pile. We conclude that Shieldalloy's proposal is acceptable. In addition, we are making three administrative changes to existing conditions that have become out-of-date, and adding Shieldalloy's September 14, 1998, amendment request to the list of references in the license.

The modified conditions are as follows:

11. The licensee shall limit actions involving source material to those related to decontamination and other activities related to the preparation for release of facilities and/ or properties for unrestricted or restricted use. Off-site slag from previous alloy furnace operations may be transferred to the licensee for storage, shall not exceed 10,000 cubic yards in volume and shall be separable and retrievable from the west slag pile.
13. The licensee shall prevent access to contaminated areas until they are suitable for release for restricted or unrestricted use.
14. The licensee shall submit a decontamination/decommissioning plan to the U.S. Nuclear Regulatory Commission, Chief, Low-Level Waste and Decommissioning Projects Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, within six months ~~from the issue date of the record of decision for the environmental impact statement~~ of the date of issuance of Amendment 5 to this license.

15. G. Letter dated September 14, 1998.

DOCKET NO.: 040-8948
LICENSE NO.: SMB-1507

LICENSEE: Shieldalloy Metallurgical Corporation

INSTALLATIONS: Cambridge, Ohio

SUBJECT: CATEGORICAL EXCLUSION FOR AMENDMENT UNDER THE
PROVISION OF 10 CFR 51.22(c)(11)

By letter dated September 14, 1998, Shieldalloy Metallurgical Corporation (SMC) requested an amendment to License SMB-1507 to authorize the receipt and placement of off-site slag/soil to the west slag pile. Some offsite slag and soil are currently stored in a staging area at the facility, but are not under the control of License SMB-1507. They are instead subject to the requirements of an Administrative Order issued by the Ohio Department of Health to Cyprus Foote Mineral Company (CFMC),¹ a previous owner of the facility. The amount of material and its radioactivity that could potentially be added is a small fraction of the existing material in the west slag pile. The material will be retrievable if it ever becomes necessary to dispose of it offsite. All of the material was previously under the control of the license, but was inadvertently removed from the site during the 1970s and 1980s and used for construction, such as fill material for driveways and foundations. The license is being amended to explicitly permit the transfer of this material from CFMC to Shieldalloy. Placement of the slag on the west pile is already authorized by the license, and no amendment is necessary for that activity.

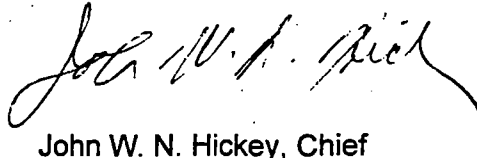
In addition to the licensee request to allow the receipt of this material, the staff is amending three existing license conditions that are obsolete and another condition to include the licensee submittal for this amendment. Existing condition 14 requires that a decommissioning plan be submitted to the Nuclear Regulatory Commission (NRC) within six months of the Record of Decision (ROD) for the environmental impact statement (EIS). In October 1997, the staff informed SMC that it would not publish the final EIS (and therefore the ROD) until after the submittal of a decommissioning plan. A new date for filing a decommissioning plan has therefore been specified. Existing conditions 11 and 13 refer to unrestricted release of the facility after license termination, whereas under a new rule published by NRC on July 21, 1997, it is possible for a restricted release license termination. This possibility has now been noted in each of these conditions. Existing condition 15 includes licensee submittals for amendments, and Shieldalloy's September 14, 1998, amendment request for this action has been added to the list.

The revision of these conditions will not: (i) result in a change in the types, nor amounts of any effluent that may be released off site; (ii) result in an increase in individual or cumulative occupational exposure; (iii) result in any construction impact; and (iv) result in any potential for

¹ July 18, 1997, Administrative Order issued by Ohio Department of Health to Cyprus Foote Mineral Company

consequences from radiological accidents. Therefore, the staff concludes that these changes will not adversely affect the public health and safety, nor the environment. Accordingly, pursuant to 10 CFR 51.22(c)(11), neither an EIS, nor an Environmental Assessment is warranted for the proposed action.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "John W. N. Hickey", with a stylized, flowing script.

John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 16, 1999

Mr. James Valenti
Shieldalloy Metallurgical Corporation
12 West Boulevard
New Field, NJ 08344

SUBJECT: AMENDMENT NO. 5 TO NUCLEAR REGULATORY COMMISSION LICENSE
NO. SMB-1507 FOR POSSESSION OF RADIOACTIVE SOURCE MATERIAL AT
THE SHIELDALLOY CAMBRIDGE, OHIO, FACILITY

Dear Mr. Valenti:

In a letter dated September 14, 1998, you asked that we amend the subject license to permit the receipt and placement of off-site slag/soil from a temporary staging area onsite to the west slag pile. You also provided an analysis to justify this action. Cyprus Foote Mineral Company (CFMC), a previous owner of your facility, had collected this off-site material from residential properties in Guernsey County, Ohio, and has been storing it in a staging area leased from your company on the Shieldalloy property. Your amendment request is for Nuclear Regulatory Commission (NRC) to authorize transfer control of this material from CFMC to Shieldalloy, and to combine the material with the slag that is already being stored onsite.

We have determined that your request for authorization to receive the "off-site" slag is acceptable. We have also determined that placement of the slag on the west slag pile is already authorized under your license and no amendment is necessary to move the material from one location on-site to another. In addition, and at our initiative, we have amended three other license conditions that contained obsolete requirements. We have enclosed the amended license and our safety and environmental review documentation. Before you place material on the west slag pile, we request that you submit a work plan, as referenced in your application to NRC, at least 30 days in advance of the movement of slag, and state when you expect to begin on-site work.

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14. We have changed the previous date for submittal of the decommissioning plan (within six months of NRC's issuance of record of decision on its environmental impact statement (EIS)) to within six months of the issuance of this amendment. NRC notified Shieldalloy

last year that a record of decision would not be issued until after a decommissioning plan was submitted. Thus, the license condition could no longer be met.

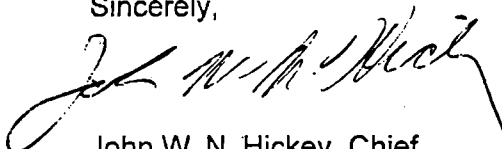
15. We have added as a reference your September 14, 1998, submittal that initiated this license amendment.

As you know, Ohio has applied to NRC to become an Agreement State, whereby NRC would relinquish regulatory authority for certain activities, including the Shieldalloy license. We expect to sign our formal agreement with Ohio later this year, at which time the Ohio Department of Health (ODH) will assume Atomic Energy Act regulation of Shieldalloy. We have coordinated this review with ODH to ensure that their concerns with this particular amendment have been addressed.

We also coordinated this review with the Ohio Environmental Protection Agency (OEPA). In a November 25, 1998, letter to NRC that was copied to you, OEPA provided comments on your license amendment request, including one concerning storm water control measures. You should obtain whatever OEPA or other State or local government approvals might be required before placing the slag in storage onto the west pile.

If you have any questions, please call James Kennedy of my staff at 301-415-6668.

Sincerely,



John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 040-8948
License No. SMB-1507

Enclosures:

1. Amendment No. 5 to SMB-1507
2. Safety Evaluation Report
3. Categorical Exclusion, 10 CFR 51.22(c)(11)

cc (w/encl): Cambridge distribution list

MATERIALS LICENSE

Amendment No. 5

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		3. License Number	SMB-1507 Amendment No. 5
1. Shieldalloy Corporation Division of Metallurgical Corp.			
2. 12 West Boulevard New Field, NJ 08344		4. Expiration Date	June 30, 2000
		5. Docket or Reference No.	040-08948
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License	
A. Uranium and Thorium	A. See Item 9.A.	A. See Item 9.A.	

9. Authorized use: To be possessed as a contaminant in slag from previous alloy furnace operations..

CONDITIONS

10. Licensed material shall be stored at the facilities and properties of the licensee located at Route 209 South, Cambridge, Ohio.
11. The licensee shall limit actions involving source material to those related to decontamination and other activities related to preparation for release of facilities and/or properties for unrestricted or restricted use. Offsite slag from previous alloy furnace operations may be transferred to the licensee for storage, shall not exceed 10,000 cubic yards in volume and shall be separable and retrievable from the west slag pile.
12. DELETED
13. The licensee shall prevent access to contaminated areas until they are suitable for release for restricted or unrestricted use.
14. The licensee shall submit a decontamination/decommissioning plan to the U.S. Nuclear Regulatory Commission, Chief, Low-Level Waste and Decommissioning Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, within six months of the date of issuance of Amendment 5 to this license.
15. Except as specifically provided other wise in this license, the licensee shall conduct its program in accordance with the statements, representations, and

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

SMB-1507

Docket or Reference Number

040-08948

Amendment No. 5

procedures contained in the documents including any enclosures, listed below. NRC's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

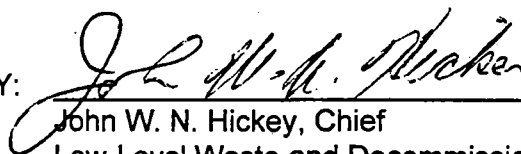
- A. Letter dated May 8, 1987.
 - B. Letter dated May 21, 1992.
 - C. Letter dated November 14, 1994.
 - D. Letter dated December 22, 1994.
 - E. Letter dated May 21, 1996
 - F. Letter dated August 15, 1997
 - G. Letter dated September 14, 1998.
16. The license expiration date of June 30, 1996, for completion of decommissioning activities at Route 209 South, Cambridge, Ohio, shall be extended to June 30, 2000.
17. Licensed material shall be possessed under the supervision of the Radiation Safety Officer (RSO), James P. Valenti.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

DATE:

2/12/99

BY:


John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

DOCKET NO: 040-8948

LICENSEE: Shieldalloy Metallurgical Corporation

FACILITY: Cambridge, Ohio facility

SUBJECT: SAFETY EVALUATION REPORT, LICENSE AMENDMENT
APPLICATION DATED SEPTEMBER 14, 1998

1. Introduction

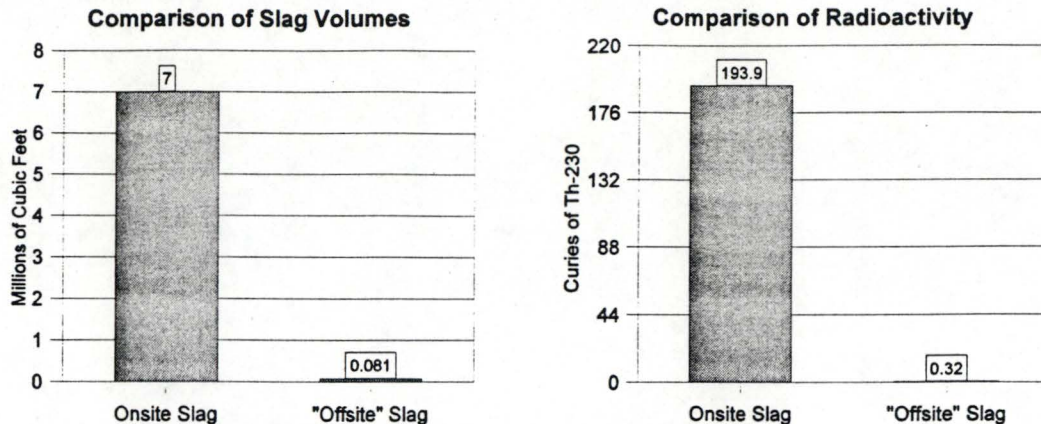
Shieldalloy Metallurgical Corporation (Shieldalloy) holds U.S. Nuclear Regulatory Commission (NRC) license SMB-1507 for the possession of radioactive source material at its Cambridge, Ohio, facility. Since 1953, the Cambridge plant has produced metal alloys for commerce, and slag has been a byproduct of these operations. Some of the slag contains above-background levels of radioactivity. It was produced from ores and other raw materials containing above-background levels of radioactive elements, especially uranium and thorium, or source material. During processing of the ores into metal alloys, these radionuclides were incorporated into the slag. Shieldalloy has also produced other slag from non-radioactive ores, and has been recycling these materials. The radioactive slag, however, is stored on-site in two piles having a combined volume of approximately seven million cubic feet and covering approximately 11 acres of land. Another approximately 80,000 cubic feet, or roughly 1% of the slag on-site, is being stored in a separate "staging area" on-site, is under the control of Cyprus Foote Mineral Company (CFMC), and is the subject of this amendment request.

In 1988, CFMC purchased a previous owner of the Cambridge facility, Foote Mineral Company (FMC), that operated the plant from 1967 until it was sold to Shieldalloy in 1987. In the 1970s and 1980s, and while Foote Mineral owned the plant, some of the radioactive slag on-site was given away to be used as construction fill material in driveways and foundations in the Guernsey County area. In 1994, CFMC, in consultation with the State of Ohio and NRC, implemented a program to identify the properties containing this slag, to evaluate the hazards associated with the slag, and, where necessary, remove material from properties.¹ CFMC remediated certain properties with off-site material during the summer of 1997, and returned slag to a small area it leased on the Shieldalloy property, less than 100 yards from the west slag pile. CFMC removed and stored the on-site material under an Ohio Department of Health (ODH) Administrative Order issued on July 18, 1997. These activities were not conducted by Shieldalloy under its NRC license, since the license applies only to material both on-site and in the possession of Shieldalloy.

In this amendment request, Shieldalloy proposes to assume responsibility for the slag in the staging area from CFMC, and to move it approximately 100 yards to the existing west slag pile. NRC approval of this action would eliminate the need for CFMC to control the material under the existing ODH Administrative Order, provide for a single organization to be responsible for all of the slag, consolidate the material into one location, and return the material to where it originally came from.

¹ See December 19, 1997, letter from John Hickey, NRC, to Roger Suppes, Ohio Department of Health for an overview of offsite slag concerns and how they have been addressed.

The amount of "offsite" material currently stored on-site is a small fraction of the total amount covered by the existing the license, as shown in the charts below comparing slag volumes and



radioactivity of the principal radionuclide, thorium-230. The average concentration of this radionuclide is 126 pCi/g in the offsite slag, and 285 pCi/g in the west slag pile. The offsite slag is mixed with soil from excavating driveways, thus lowering its average concentration below that in the west pile.

Shieldalloy expects to submit a decommissioning plan in the near future that will address how all of these materials will be permanently dispositioned so that the NRC license can be terminated. NRC staff has already conducted extensive analyses of decommissioning alternatives in a draft Environmental Impact Statement (EIS)² for the Cambridge facility. The EIS includes an analysis of the placement of offsite slag from properties in the Guernsey County area onto the west pile. NRC preliminarily concluded in the draft EIS that Shieldalloy's proposal to stabilize the piles and their residual radioactivity in place was acceptable. The proposal included an alternative whereby 10,000 cubic yards of offsite slag would be placed on the west slag pile. The slag piles would be stabilized in place, and land use at the site limited in the future through the use of institutional controls (in accordance with the new "restricted use" provisions in 10 CFR 20.1403). The final conclusion on disposition of the slag piles will not be made until Shieldalloy submits a decommissioning plan and the regulatory review is completed, however.

Shieldalloy's current amendment request simply addresses the transfer of responsibility for the offsite slag and consolidating it onto an existing slag pile at the site. Our conclusions on that request contained here do not affect the ultimate disposition of the slag—i.e., whether it will be included as part of the residual radioactivity that can remain on-site in accordance with 10 CFR 20.1403, or whether it would require permanent disposal in a 10 CFR Part 61 low-level radioactive waste disposal facility. In this review, we have considered the possible

² U.S. Nuclear Regulatory Commission, Draft Environmental Impact Statement, Decommissioning of the Shieldalloy Metallurgical Corporation Cambridge, Ohio, Facility, NUREG-1543. July 1996.

consequences of this action on the future decommissioning of the site, but we make no findings or commitments regarding future decommissioning actions to be taken by Shieldalloy.

This action also does not preclude return of additional material to the site at some future time. In fact, we have increased the amount authorized for transfer to Shieldalloy from approximately 1% of the total volume in the piles to approximately 3% (or 10,000 cubic yds) to be consistent with our analysis in the draft EIS. CFMC is currently considering the return of additional material from at least one offsite property, and allowing for up to 10,000 cubic yds with this amendment will hasten the return of that material to the site where it will be under license. Shieldalloy could request that even greater amounts of material be permitted to return to the site, but would have to submit another amendment request to do so.

In addition to amending the license to authorize the transfer of offsite slag, the staff is amending three license conditions at this time that contain obsolete administrative information.

2. Discussion

2.1 Licensee Proposal

The licensee proposes to accept responsibility from CFMC for slag retrieved from offsite locations and to place it on the west slag pile for storage.

2.1.1 Staff Evaluation

For the first part of this request, Shieldalloy would become responsible for the management of the offsite slag material currently stored in the on-site staging area leased and controlled by CFMC. Under this part of the request, no material would be moved, only the responsibility for its safe management would change. The existing license does not specifically authorize this transfer.

In evaluating this request, we considered whether Shieldalloy would be accepting source materials different from those currently on-site, or performing activities different from those already authorized under license. Shieldalloy is authorized under its existing license to manage these kinds of slag materials. In fact, the material that will be transferred to them from CFMC was originally on-site and managed with the rest of the slag, but was given away to property owners for use as a construction material. This licensing action would return the responsibility for the slag to the current site owner and license holder, Shieldalloy, and control the material with the rest of the slag that is under license. The additional material from CFMC is a small fraction of that currently under license, is chemically and physically similar to the material now on-site in the west slag pile, and falls within the types of materials covered by the existing license ("uranium and thorium . . . as a contaminant in slag from previous alloy furnace operations"). The staff finds this portion of the request for amendment acceptable and existing license condition 11 is being revised to specifically authorize this transfer of responsibility.

For the second part of the request, placement of the material onto the west slag pile, once the material becomes the responsibility of Shieldalloy, the licensee is authorized under its existing license to perform these kinds of activities (i.e., placing slag on the west pile) that are related to preparing the site for decommissioning. License condition 11 now states, "The licensee shall limit actions . . . to those related to decontamination and other activities related to preparation for release of facilities and/or properties for unrestricted use." Shieldalloy must perform this work under a 10 CFR Part 20 radiation protection program to ensure that workers and the public are adequately protected from the effects of ionizing radiation. This movement of slag approximately 100 yards is typical of the kinds of activities that are currently authorized and that Shieldalloy has performed over the past 10 years in preparing the site for decommissioning work. We are requesting that Shieldalloy submit a work plan for this effort at least 30 days before any on-site work is performed. We will review the work plan and may conduct an on-site inspection when the work is performed. However, no change in the existing license is necessary to place the material on the west slag pile.

Although the licensee requested that the amount to be transferred be only that which is currently stored in the staging area (3000 cubic yds or about 1% of the total volume and 0.15% of the radioactivity of slag currently on-site), we have evaluated a larger amount in this SER (10,000 cubic yds) consistent with the amount considered in our draft EIS. This amount is approximately 3% of the total stored in the east and west slag piles currently on site. The draft EIS (page 4-42) found that the addition of 10,000 cubic yds had no effect on the radiation dose to an off-site member of the public. In all cases, the 6 mrem/yr dose is well within the 25 mrem/yr limit in NRC's license termination regulations in 10 CFR Part 20, Subpart E. For a member of the public who is postulated to farm on-site, the draft EIS (page 4-40) calculates an increase in radiation dose to that person from 36 mrem/yr to 42 mrem/yr, both well within the 100 mrem/yr restricted use criterion in Subpart E of 10 CFR Part 20. This additional material would also be initially controlled under an Ohio Administrative Order by CFMC.

As noted earlier, the draft EIS contains preliminary findings which could change when the decommissioning plan to be submitted by Shieldalloy is reviewed by the regulatory agency. For this reason, Shieldalloy has committed to make the offsite material separable and retrievable from the west slag pile, in the event that future analysis shows that it must be removed from the site for the license to be terminated. The existing analysis, however, shows minimal increases in radiation doses to members of the public from this additional material.

2.2 NRC Staff Initiated Changes

In addition to this amendment to the license, there are three obsolete administrative conditions that the staff is revising.

2.2.1 Inclusion of restricted site use as a decommissioning option

On July 21, 1997, NRC promulgated new regulations for decommissioning in 10 CFR Subpart E, "Radiological Criteria for License Termination." These new regulations allow for both unrestricted use and restricted use of a site under certain specified conditions when a license is terminated. Restricted use was not authorized under the previous regulations. Existing license conditions 11 and 13, which were specified in this license before the promulgation of Subpart E,

10 CFR Part 20, refer to the release of property for unrestricted use only, and are now being revised to include the possibility of restricted use.

2.2.2 Schedule for submission of a decommissioning plan

Existing license condition 14 states that the licensee should submit a decommissioning plan to NRC within six months from the issue date of the record of decision for the EIS. In a March 4, 1998, letter to Shieldalloy, the staff stated that it would not conduct further work on the environmental review (and thus not be publishing a record of decision for the EIS) until it received a formal license amendment request stating the proposed decommissioning alternative. Shieldalloy expects to submit the proposed alternative in a decommissioning plan in the near future.

Shieldalloy has been considering recycling the east slag pile, rather than disposing of it offsite or leaving it as residual radioactivity on-site with restricted release. On November 19, 1997, the licensee submitted a technical report analyzing the dose consequences of recycling "East Pile slag." We provided the results of our review in our October 13, 1998 letter, and Shieldalloy is in the process of deciding which alternative to propose in its decommissioning plan. We have revised the license condition to require the submission of the decommissioning plan within six months of the date of issuance of this amendment.

3. Conclusions

We have evaluated Shieldalloy's proposal to accept responsibility for off-site slag and to place it on the west slag pile. We conclude that Shieldalloy's proposal is acceptable. In addition, we are making three administrative changes to existing conditions that have become out-of-date, and adding Shieldalloy's September 14, 1998, amendment request to the list of references in the license.

The modified conditions are as follows:

11. The licensee shall limit actions involving source material to those related to decontamination and other activities related to the preparation for release of facilities and/ or properties for unrestricted or restricted use. Off-site slag from previous alloy furnace operations may be transferred to the licensee for storage, shall not exceed 10,000 cubic yards in volume and shall be separable and retrievable from the west slag pile.
13. The licensee shall prevent access to contaminated areas until they are suitable for release for restricted or unrestricted use.
14. The licensee shall submit a decontamination/decommissioning plan to the U.S. Nuclear Regulatory Commission, Chief, Low-Level Waste and Decommissioning Projects Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, within six months ~~from the issue date of the record of decision for the environmental impact statement~~ of the date of issuance of Amendment 5 to this license.

15. G. Letter dated September 14, 1998.

DOCKET NO.: 040-8948
LICENSE NO.: SMB-1507

LICENSEE: Shieldalloy Metallurgical Corporation

INSTALLATIONS: Cambridge, Ohio

SUBJECT: CATEGORICAL EXCLUSION FOR AMENDMENT UNDER THE
PROVISION OF 10 CFR 51.22(c)(11)

By letter dated September 14, 1998, Shieldalloy Metallurgical Corporation (SMC) requested an amendment to License SMB-1507 to authorize the receipt and placement of off-site slag/soil to the west slag pile. Some offsite slag and soil are currently stored in a staging area at the facility, but are not under the control of License SMB-1507. They are instead subject to the requirements of an Administrative Order issued by the Ohio Department of Health to Cyprus Foote Mineral Company (CFMC),¹ a previous owner of the facility. The amount of material and its radioactivity that could potentially be added is a small fraction of the existing material in the west slag pile. The material will be retrievable if it ever becomes necessary to dispose of it offsite. All of the material was previously under the control of the license, but was inadvertently removed from the site during the 1970s and 1980s and used for construction, such as fill material for driveways and foundations. The license is being amended to explicitly permit the transfer of this material from CFMC to Shieldalloy. Placement of the slag on the west pile is already authorized by the license, and no amendment is necessary for that activity.

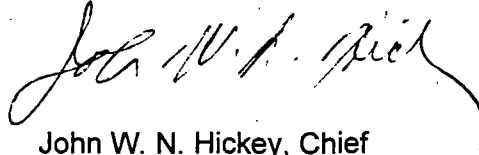
In addition to the licensee request to allow the receipt of this material, the staff is amending three existing license conditions that are obsolete and another condition to include the licensee submittal for this amendment. Existing condition 14 requires that a decommissioning plan be submitted to the Nuclear Regulatory Commission (NRC) within six months of the Record of Decision (ROD) for the environmental impact statement (EIS). In October 1997, the staff informed SMC that it would not publish the final EIS (and therefore the ROD) until after the submittal of a decommissioning plan. A new date for filing a decommissioning plan has therefore been specified. Existing conditions 11 and 13 refer to unrestricted release of the facility after license termination, whereas under a new rule published by NRC on July 21, 1997, it is possible for a restricted release license termination. This possibility has now been noted in each of these conditions. Existing condition 15 includes licensee submittals for amendments, and Shieldalloy's September 14, 1998, amendment request for this action has been added to the list.

The revision of these conditions will not: (i) result in a change in the types, nor amounts of any effluent that may be released off site; (ii) result in an increase in individual or cumulative occupational exposure; (iii) result in any construction impact; and (iv) result in any potential for

¹ July 18, 1997, Administrative Order issued by Ohio Department of Health to Cyprus Foote Mineral Company

consequences from radiological accidents. Therefore, the staff concludes that these changes will not adversely affect the public health and safety, nor the environment. Accordingly, pursuant to 10 CFR 51.22(c)(11), neither an EIS, nor an Environmental Assessment is warranted for the proposed action.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in cursive script, appearing to read "John W. N. Hickey", written in black ink.

John W. N. Hickey, Chief
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards