



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

June 5, 1995

MEMORANDUM TO: Robert C. Pierson, Chief
Licensing Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS

THRU: Michael Tokar, Section Leader
Licensing Section 2
Licensing Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS *Michael Tokar*

FROM: Gary C. Comfort
Licensing Section 2
Licensing Branch
Division of Fuel Cycle Safety
and Safeguards, NMSS *G C Comfort*

SUBJECT: MAY 24, 1995, MEETING WITH SHIELDALLOY REGARDING ITS EXPORT
LICENSE REQUEST

On May 24, 1995, Shieldalloy Metallurgical Corporation (Shieldalloy) representatives met with Nuclear Regulatory Commission staff at Two White Flint North. The purpose of the meeting was to discuss Shieldalloy's application to export CANAL slag from its Newfield, New Jersey, facility and to discuss an NRC memorandum from me to Betty Wright, dated May 11, 1995, on this subject. A list of attendees is attached.

Shieldalloy representatives began the discussion by presenting International Atomic Energy Agency (IAEA) guidance that might be applicable. During this discussion, Shieldalloy stated that I misunderstood their contractor to say, during a telephone conversation in early May, that Safety Series 9 had been rescinded (as I later reported in my May 11, 1995, memorandum); instead, Shieldalloy stated that it was other interim IAEA guidance dealing with naturally occurring radioactive materials (NORM), and referenced by Safety Series 9, which had been rescinded. Statements from this interim guidance had originally been used as a footnote (without proper referencing) by Shieldalloy to support a study of radiological impacts from the use of CANAL that Shieldalloy had submitted to NRC by letter dated April 20, 1995. The guidance was considered pertinent, until it was learned that it was rescinded, because it considered solid NORM with concentrations under 14,000 pCi/g to be "below concern" and may have been used to clearly show that the use of CANAL as proposed was acceptable under the IAEA guidance. During the discussion regarding IAEA guidance, Shieldalloy presented other IAEA guidance it believed would be supportive to the review of the export permit. As a followup to this meeting, Shieldalloy committed to provide written summaries of the IAEA guidance it believed to be applicable to the export application.

The meeting continued with a discussion of alternate scenarios that I had presented in my May 11 memorandum. I explained to Shieldalloy that its

assessment of scenarios was reasonable but the assessment did not necessarily provide conservative evaluations in all cases. My assumptions used in developing the scenarios in my May 11 memorandum were based upon my interpretation of the steel manufacturing process from Shieldalloy's prior submittals. While discussing each of my proposed scenarios, Shieldalloy provided more information on the steel production process which allowed for discussion and clarification of the scenarios presented in my May 11 memorandum as follows:

2000 hour worker exposure scenario

Because of the location, setup, and environmental conditions in the warehouse, it is unlikely that anyone would remain in contact with the CANAL for long durations. In addition, because of its value and package size, it is unlikely that any CANAL would be misplaced or stored elsewhere. Shieldalloy suggested that IAEA guidance, regarding operating practices at steel mills, be used to estimate the stay times for workers for radiation exposure calculations. Based upon the operating practices at the steel mill as presented by Shieldalloy, the staff agreed that long-term exposures to the CANAL were unlikely and that Shieldalloy's original scenario adequately modeled the expected work conditions. However, I explained that because the material would have no regulatory oversight, the calculation was meant to show that higher exposures are possible if the material is handled improperly.

Dilution of aggregate

As a result of Shieldalloy's detailed explanation of the actual operating process of the steel mill, the staff agreed that the new slag from the CANAL heats would be reasonably homogenized to the concentrations suggested by Shieldalloy. My original interpretation of the process was that all slag produced was from one waste stream and that the stream included only CANAL heats or other material heats. Therefore, my expectation was that numerous consecutive CANAL heats could cause significant layering in the accumulated slag piles. Shieldalloy explained that while each CANAL heat is processed, significantly larger quantities of iron ore slag are also produced from a different process stream. Therefore, for every CANAL heat slag placed on the slag pile, over 25 times more iron slag would also be placed on the pile, thus diluting the CANAL. This practice makes it extremely unlikely that any layering of CANAL heat slag will occur. Shieldalloy stated that the only way that this dilution would not occur is if the CANAL heat slag was intentionally stored separately. Because of the value of the waste slags, there is no reason or expectation that the steel mill would take such action.

Ingestion of slag pieces

Shieldalloy did not disagree with this scenario.

Aggregate use in cement

Shieldalloy stated that they would examine this scenario and provide an evaluation.

Robert C. Pierson

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The meeting concluded with agreements that Shieldalloy will provide additional information in writing and that I, employing the clarifications provided by Shieldalloy, will issue another memorandum to modify my May 11, 1995, memorandum.

Docket 40-7102
License SMB-743

Attachment: List of Attendees

cc w/att: Mr. Scott Eves, Vice President
Environmental Services
Shieldalloy Metallurgical Corp.
12 West Boulevard
P. O. Box 768
Newfield, New Jersey 08344

ATTENDEES OF MAY 24, 1995
MEETING WITH SHIELDALLOY

NRC

R. Pierson - FCLB
M. Tokar - FCLB
G. Comfort - FCLB
S. Soong - FCLB
R. Hauber - Office of International Programs
B. Wright - Office of International Programs

Other

M. Williams - Shieldalloy
C. Berger - Integrated Environmental Management
J. Silberg - Shaw, Pittman, Potts, and Trowbridge

Robert C. Pierson

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OFC	FCLB	E	FCLB	C	FCLB	E
NAME	GComfort:mh		Vharpe		MTakar	
DATE	6/2/95		6/2/95		6/ /95	