UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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William R. Jeffress
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OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Dear Mr. Jeffress:

This letter is in response to your May 12, 1999 letter concerning the applicability of section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) to your facility.

According to your letter Fairbanks Gold Mining, Inc. (FGMI) operates a large open pit and milling operation north of Fairbanks, Alaska. You state that the gold operation mined approximately 33.3 million tons of ore and milled 13.7 million tons of ore during 1998. Approximately 7.4 million tons of waste rock made up the 33.3 million tons of ore mined. The waste rock was moved to rock dumps. You further provide in your letter that based on the tonnage mined and milled, you believe that even at the average crustal abundance for TRI metals contained in the ore and waste, activity thresholds were exceeded. Based on this background information you are asking for guidance on the following questions:

First, once a reporting threshold has been exceeded for a toxic chemical, is it necessary to determine for that chemical coincidental manufacturing occurring through the beneficiation process?

For facilities that meet the SIC code and employee threshold reporting criteria, once an activity threshold (i.e., manufacturing, processing, or otherwise use) is exceeded for a toxic chemical, the facility must comply with the reporting requirements of EPCRA section 313. Accordingly, if the facility knows that it has already exceeded an activity threshold for a particular chemical or chemical category, then the facility does not need to consider any coincidental manufacturing of that chemical or chemical category for the purpose of determining whether a report needs to be filed for that chemical or chemical category. However, consideration of the coincidental manufacturing taking place during the beneficiation process will be needed to properly account for all releases and other waste management calculations associated with any toxic chemicals in which an activity threshold has been exceeded. As provided in 40 CFR section 372.25(c), once an activity threshold is exceeded and a report needs to be filed, the facility must consider toward release and other waste management calculations all non-exempt activities and not just those activities which contributed to the activity threshold that was exceeded. For example, all releases and other waste management activities associated with the manufacturing and processing of a toxic chemical must be included in the report for a toxic chemical even if the otherwise use

threshold is the only activity threshold that is exceeded for that chemical. In addition, facilities should check all the appropriate boxes in Part II, Section 3 of the Form R.

Second, you ask for clarification regarding the guidance provided in the March 19, 1999 letter to the Alta Gold Mining Company.
That letter provides that if any of the arsenic or other toxic chemicals is incorporated into the dore, then the entire quantity of the arsenic and/or other toxic chemicals in the leach pad, and not just the quantity in the dore, is considered "processed" and should be applied to the appropriate processing threshold determinations. That letter also provides, as you point out, that the *de minimis* exemption may be considered for toxic chemicals that are processed.

Third, you ask, since EPCRA section 313 metals are in the dore and therefore, are clearly within the definition of processing, does the mining industry need to consider the coincidental manufacturing of toxic chemicals remaining in the leach circuit?
Yes. As stated in the answer to your first question, coincidental manufacturing in the leach circuit should be considered. Once an activity threshold is exceeded for a particular toxic chemical, releases and other waste management activities associated with all non-exempt activities (and not just those activities that led to a threshold being exceeded) need to be included on the Form R. Further, while the *de minimis* exemption applies to toxic chemicals that are processed, the *de minimis* exemption does not apply to toxic chemicals that are coincidentally manufactured as byproducts. Accordingly, even if the processing threshold is exceeded for a particular toxic chemical, coincidental manufacturing in the leach circuit should be considered toward the manufacturing threshold. While the processed portion of that chemical may be eligible for the *de minimis* exemption, the manufactured portion that remains in the leach circuit is not an impurity that remains in the product distributed in commerce. Therefore, the *de minimis* exemption would not apply to that manufactured portion of the chemical that remains in the leach circuit. In short, it is important for a facility to consider all three activity thresholds (i.e. manufacturing, processing, and otherwise use) taking place at the facility.

Fourth, you provide the following hypothetical scenario:
Assume that there are 10,000 pounds of silver sulfides in 1,000,000 tons of ore. You state that this 10,000 pounds of silver sulfides equates to 8,710 pounds of elemental silver. You further provide that the first transformation of the silver compounds turns the silver sulfides to silver oxide. Assuming a theoretical reaction of 100%, this would yield 9,355 pounds of silver oxide. This oxide material is then leached to produce silver cyanide. This compound is then sent to a zinc precipitation circuit where it is 100% reacted to produce 8,710 pounds of elemental silver. This metal is then re-melted to form a bar that is shipped out as the final product.

Based on this hypothetical scenario you are asking for guidance about how a facility should consider the manufacturing and processing thresholds.

First, keep in mind that elemental silver and silver compounds are listed separately and threshold determinations should, therefore, be considered separately. However, you should consider toward threshold determinations for a compound category the total quantity of all compounds that fall under the category. 40 CFR section 372.25(d) provides:

> When a facility manufactures, processes, or otherwise uses more than one member of a chemical category listed in section 372.65(c), the owner or operator of the facility must report if it exceeds any applicable threshold for the total volume of all the members of the category involved in the applicable activity. Any such report must cover all activities at the facility involving members of the category.

Further, if a metal is converted to a metal compound, or if a metal compound is converted to a metal, or if a metal compound is converted to another metal compound, manufacturing has taken place. (See 1998 Q&A 415 and page 3-11 of the EPCRA Section 313 Industry Guidance for Metal Mining Facilities; January 1999, EPA 745-B-99-001).

Accordingly, based on your hypothetical, silver oxide, silver cyanide and elemental silver are being manufactured. The quantities of both the silver oxide and the silver cyanide manufactured should be included in the manufacturing threshold determination for silver compounds. Additionally, the quantity of the silver cyanide manufactured should also be applied toward the manufacturing threshold for cyanide compounds. (See 1998 Q&A 138). In response to your concerns, this is not double counting even though the parent metal is the same in both compounds. (See 1998 Q&A 154). The quantity of the elemental silver manufactured, however, should be applied to the manufacturing threshold for silver, as silver is a separately listed toxic chemical.

As for processing, in accordance with the terms of your hypothetical the total quantity of silver sulfides, silver oxide and silver cyanide should be applied toward the processing threshold for silver compounds. The total quantity of silver cyanide should also be applied toward the processing threshold for cyanide compounds. And, of course, the elemental silver is being processed, and therefore, the total quantity of silver should be applied toward the processing threshold for silver. The compounds in this hypothetical are being considered toward processing thresholds because a part of the compound (i.e., the silver) is being incorporated into the product being distributed in commerce. (See 1998 Q&A 138 and 206).

As for the otherwise use threshold, if toxic chemicals are used as processing or manufacturing aids that are not incorporated into the product distributed in commerce, then those toxic chemicals should be applied toward the appropriate otherwise use activity thresholds. For example, based on your hypothetical it appears that a zinc compound is being otherwise used by your facility to separate the silver from the silver cyanide. If this is the case then the quantity of the zinc compound(s) being used for this purpose should be applied toward the otherwise use threshold for zinc compounds.

Finally, your facility should note that if the manufacturing threshold is exceeded for both silver and silver compounds, your facility may "combine the parent metal and its metal compounds for reporting. In completing the form R, only the weight of the parent metal (not the entire compound weight) is to be considered." (See 1998 Q&A 419).

Lastly, you are asking for guidance regarding the crusher, SAG, and ball mill liners and grinding balls, all of which are used in the primary comminution of the ore prior to the gravity circuit and cyanide leach.
According to your letter material wears from the liners and balls and this material remains in the circuit. Eventually, this material is discharged into the tailing storage facility. You further provide, that in your particular operation, thresholds are exceeded for EPCRA section 313 listed metals in the liners and grinding balls. Based on this scenario you want to know if you need to consider coincidental manufacturing as these toxic chemicals from the equipment proceed through the leach circuit.

Succinctly put, the answer to your question is yes. For the reasons expressed in the answer to your first and third questions, coincidental manufacturing should be considered even if thresholds are exceeded elsewhere for the same toxic chemicals. The equipment described in this scenario wears as a part of its operation. Therefore, these items would not likely qualify for the article exemption. (See 1998 Q&A 342 and 345, and Appendix A, Directive #1 - Article Exemption.) Clearly, the structural component exemption would not apply here because the items at issue are process related. (See 1998 Q&A 269). Accordingly, the facility should use "readily available data (including monitoring data) collected pursuant to other provisions of law, or, where such data are not readily available, reasonable estimates of the amounts involved" when applying the quantities of toxic chemicals associated with these items to the appropriate activity thresholds and to release and other waste management calculations. (42 U.S.C. section 11023 (g)(2)). Further, in addition to coincidental manufacturing, the quantities of toxic chemicals that wear from this equipment and enter the process stream (eventually to be discharged into the tailing storage facility) should be included in the otherwise use threshold determinations for those toxic chemicals.

I hope this information is helpful to you in making threshold determinations and release and other waste management calculations for section 313 of EPCRA. If you have any other questions, or desire further information, please call either Larry Reisman at 202.260.2301 or me at 202.260.9592.

Sincerely,

Maria J. Doa, Ph.D., Chief
Toxics Release Inventory Branch