

December 22, 2004

Mr. Martin O'Neill, Director
Safety, Health, and Environmental Affairs
Cabot Corporation
P.O. Box 1608
County Line Road
Boyertown, PA, 19512

SUBJECT: ACKNOWLEDGMENT OF THE CABOT SUPERMETALS INC. REQUEST TO
AMEND LICENSE SMB-920 TO ALLOW RECYCLING OF FILTERCAKE IN
CEMENT (TAC LU0072)

Dear Mr. O'Neill:

The U.S. Nuclear Regulatory Commission (NRC) received, by letter dated November 24, 2004, a request to amend License SMB-920, to allow recycling of waste water filtercake in a cement kiln. Cabot Supermetals Inc. (CSM) should address the following comments so that the staff can continue with the technical review of the application.

1. Page 3, second paragraph, indicates that the request is for use of any cement kiln that dilutes the filtercake 1:100. However, other criteria are important to the potential dose to the public (exposure pathways) such as handling of the filtercake before mixing with other materials.

REQUEST: Revise the request on page 3 and the proposed license condition wording on page 1 to incorporate any critical characteristics of the cement kiln where the filtercake could be taken.

2. Page 12, second paragraph, and Table 10-2 indicates the landfill release limits for individual radionuclides in filtercake in pCi/g (wet weight). The paragraph also refers to the dose assessment provided in the 2004 license renewal application. An attachment to that dose assessment was the 2002 filtercake study with radionuclide values in pCi/g (dry weight). The activity concentration of radionuclides is normally presented as dry weight, and because the cement mixture is dried, the activity concentration of filtercake should be presented on a dry weight basis. In addition, the assumption that the radionuclide ratios established in the 2002 study are still valid has not been justified.

REQUEST: Provide a corrected page 12 (including Table 10-2) indicating that the release limits in pCi/g are in terms of dry weight and before the application of the unity (sum of fractions) requirement. Also, indicate if all analytical results were reported to the NRC in dry weight and the impact on the dose modeling of using the dry weight activity concentrations values instead of wet weight, if wet weight values were used in the model. In addition, justify the assumption that the 2002 radionuclide ratios are representative of current and future filtercake.

CSM should provide the information requested above within 30 days from the date of this letter, or indicate why a delay is necessary. The NRC staff is also requesting page changes based on minor comments, described in the enclosure, that can be provided after the NRC staff determines if any additional information is required to complete the evaluation. In addition, any updated information for the environmental report should be provided.

If you have any questions, please feel free to contact me by telephone at (301) 415-6606, or via e-mail to esb@nrc.gov.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Please note that on October 25, 2004, the NRC suspended public access to ADAMS, and initiated an additional security review of publicly available documents to ensure that potentially sensitive information is removed from the ADAMS database accessible through the NRC's web site. Interested members of the public may obtain copies of the referenced documents for review and/or copying by contacting the Public Document Room pending resumption of public access to ADAMS. The NRC Public Document Room is located at NRC Headquarters in Rockville, MD, and can be contacted at (800) 397-4209 or (301) 415-4737 or pdr@nrc.gov.

Sincerely,

/RA/

Elaine Brummett, Project Manager
Uranium Processing Section
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 40-6940
License No.: SMB-920

December 22, 2004

CSM should provide the information requested above within 30 days from the date of this letter, or indicate why a delay is necessary. The NRC staff is also requesting page changes based on minor comments, described in the enclosure, that can be provided after the NRC staff determines if any additional information is required to complete the evaluation. In addition, any updated information for the environmental report should be provided.

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Sincerely,

/RA/

Elaine Brummett, Project Manager
 Uranium Processing Section
 Fuel Cycle Facilities Branch
 Division of Fuel Cycle Safety
 and Safeguards
 Office of Nuclear Material Safety
 and Safeguards

Docket No.: 40-6940
 License No.: SMB-920

Enclosure: Minor Comments

cc: T. Knapp, Cabot

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*see previous concurrence

OFC	FCFB		FCFB		FCFB	
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MINOR COMMENTS CONCERNING
THE REQUEST TO AMEND LICENSE SMB-920
TO ALLOW RECYCLING OF FILTERCAKE IN CEMENT

1. The title of the application (supplement to Form 313) is "Supplemental Information for Application to Amend License Number SMB-920 to Allow Filtercake Disposal at a Cement Kiln." Also, at the end of first paragraph on page 9, CSM indicates that the filtercake is to be disposed of under section 20.2002. During discussions last year with our senior management and staff from our Office of General Counsel, it was determined that taking the filtercake to a cement kiln to be used for feed material is not disposal. Disposal entails removal of the material from circulation and public exposure, i.e., burial or incineration.

REQUEST: Revise the title page to change the word "disposal" to "recycling." Also, revise page 9 to indicate that the NRC has determined that the proposal would be considered as recycling of filtercake, subject to current NRC policy.

2. Page 2 of the application, fifth paragraph, states that "Because filtercake contains low radionuclide concentrations, the material did not have to be addressed in the current Decommissioning Funding Plan Cost Estimate for the site. Page 15 of the Technical Evaluation Report for the Cabot license renewal, dated May 26, 2004, indicates that the daily cost for loading, transporting, and disposal of filtercake at a landfill was reviewed.

REQUEST: Revise page 2 to indicate that an adjustment to the cost estimate is not required because the landfill option will still be available (and the cement kiln option is cheaper).

3. Page 6, fourth paragraph, indicates CSM is licensed to handle source material under the NRC category for uranium mills. This is incorrect. The mills are regulated mainly under Appendix A to Part 40. The rest of Part 40 is for all licensees that possess, use, or transfer source material. The licensees include a facility that converts the uranium oxides in yellowcake into uranium hexafluoride, as well as research, medical, and industrial facilities. Some of the guidance for mills has been recommended to CSM because there is no guidance specific to the situation at CSM.

REQUEST: Correct page 6 to indicate that the site is licensed under 10 CFR 40.

4. Page 9, the third sentence, indicates that lime is added to the filtercake which increases the radioactivity of the material.

REQUEST: If CSM has data on the radionuclide content of filtercake before addition of lime or content of the lime, the values should be presented in the application.

5. Page 13, Table 10-4, provides the "current" uranium and thorium activity concentrations in the cement feed material.

Enclosure

REQUEST: Indicate what is meant by “current” (averaged over what time span and the number of samples), and if the values are based on the dry weight of the samples. Since these values are to be compared to current (2002-2004) filtercake values, the staff assumes the filtercake values on page 9, Section 9.1 are based on dry weight.

6. Page 18 indicates that guidance in NUREG-1757 (2002) was used. However, that draft NUREG was finalized in September 2003.

REQUEST: Indicate if the reference to 2002 was a typographical error, or was the draft guidance used. If the final guidance was used, provide a revised page.