

**From:** Frank Cardile - NMSS  
**To:** STP Cheryl Trottier; collins@iema.state.il.us; John Greeves; Patricia Holahan; Paul Lohaus; STP age Stuart Treby; Theodore Quay - NRR  
**Date:** Fri, Jul 30, 2004 10:42 AM  
**Subject:** Additional Background information on Cabot for August 11 SG meeting

My email of July 28 provided an agenda and background material on the GEIS for the Aug 11 SG meeting

This email provides background material for the 3rd topic on the agenda, a request from Cabot to FCSS for recycle of filtercake into cement

**CC:** Alice Rogers; Audrey Hayes; Brooke Smith; Charlotte Abrams; Christine Schulte; Duane Schmidt; Elaine Brummett; Frank Cardile; Jean-Claude Dehmel; Joseph DeCicco; Kathryn Barber Nolan; Kim Karcagi; Michael Ryan; Osiris Siurano-Perez; Phyllis Sobel; Scott Flanders; Scott Moore; Stephen Klementowicz

B/61

## Cabot Corporation's request for a plant trial for recycling wastewater filtercake (sludge) into cement

### Background:

- Cabot Corp, an NRC Part 40 licensee (rare earths processor), produces about 19,000 tons/yr of wastewater filtercake (CaF, CaSO<sub>4</sub>), which is shipped offsite daily to a landfill with a limit of 10 pCi/g source material, but usually averages less than 3 pCi/gm of uranium and less than 0.2 pCi/g of thorium per year.
- Cabot requested the option to recycle filtercake in cement and roadbase in 2003.
- A TAR was issued to EPAB in May 2003; McKenney reviewed Cabot's dose assessment for disposition alternatives and considered them acceptable from a technical perspective, July 2003
- The Clearance Steering Group considered this request on September 24, 2003, and policy issues were raised because of the current rulemaking. This was discussed with Marty Virgilio on October 1, 2003, with staff indicating that this request does not comport with 10 CFR 20.2002 disposal, but might be considered under 40.13(a) for the cement option. Additional information was to be gather by DWM and OGC. Another meeting was held October 27, 2003, and it was decided staff would write a Commission paper and not consider the test run separately. The licensee was informed a decision could take 4-6 months and withdrew the recycle request.
- The Cabot license was renewed May 26, 2004 with a condition limiting disposal in landfills to: 10 pCi/gm uranium and 3 pCi/gm thorium with sum of fractions (U/10 +Th/3 = 1) resulting in less than 3 mrem/yr to the critical group. No significant concerns with this limit were expressed by Pennsylvania Dept of Environmental Protection (PADEP).

### New Request from Cabot for Recycling in Cement

- A draft (incomplete) letter from Cabot dated July 22, 2004, requested a trial run of 1,500 tons of filtercake over one month (additional data due August 10). Cabot would ensure that the average source material level was less than 5 pCi/g, so the dose to the critical group would be less than 0.15 mrem/yr.
- Approval of the trial run would allow Cabot to learn if the resulting cement meets all specifications before incurring the time and expense of a request for full time use of this option. Consultations by Cabot with PADEP and EPA are in progress.

### Issues:

- From a policy perspective, the Clearance Steering Group is asked for guidance for FCSS staff on the approval of Cabot's request to recycle filtercake for use as a cement feed material. How should the FCSS staff consider the previous approvals for source material (waste) going to a cement factory and the August 7, 2000, Kane/Collins memo for case by case approvals, and the SRM of May 4, 2004.
- Can a trial run be treated separately (and quickly) from a request for continuous use of this recycle option? In other words, does a source material limit of 5 pCi/g over one month vs up to 10 pCi/g in a year make a difference in NRC approval process?
- Under either option (trial run or continuous), is a Commission paper still necessary?