

June 4, 2001

MEMORANDUM TO: Michael T. Lesar, Chief  
Rules and Directives Branch  
Division of Administrative Services  
Office of Administration

FROM: Larry W. Camper, Chief  
Decommissioning Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

**/RA/**

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT RELATED TO APPROVAL OF  
THE DECOMMISSIONING PLAN FOR CABOT CORPORATION'S SITE  
IN REVERE, PENNSYLVANIA

Attached please find one signed original of the subject Federal Register notice for your transmittal to the Office of the Federal Register, for publication. Also, attached are five copies of the signed notice and a 3.5" diskette with the notice in WordPerfect.

Docket No.: 040-9027  
License No.: SMC-1562

Attachments:

1. One signed original FRN
2. Five copies of signed FRN
3. 3.5" diskette of FRN

CONTACT: Theodore Smith, NMSS/DWM  
301-415-6721

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U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NO. 40-9027

LICENSE NO. SMC-1562

CABOT CORPORATION'S REVERE SITE

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT RELATED TO

APPROVAL OF SITE DECOMMISSIONING PLAN

AGENCY: U.S. Nuclear Regulatory Commission

ACTION: Finding of No Significant Impact

Notice of Opportunity for Hearing

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) proposes to approve Cabot Corporation's (Cabot's or the licensee's), Decommissioning Plan (DP) for its Revere, Pennsylvania, site and amend NRC Source Material License SMC-1562 to remove the Revere site from the license. Cabot is authorized to store up to 91,000 kilograms (100 tons) of elemental, natural uranium and thorium, in any form, at its Reading and Revere, Pennsylvania, sites. This proposed action pertains only to the Revere site; the Revere site will be removed, and the Reading site will remain on the license. The Revere site (Revere) is located approximately 60 kilometers (36 miles) north of Philadelphia and about 26 kilometers (16 miles) southeast of Allentown, Pennsylvania. The NRC staff has evaluated Cabot's request and has developed an Environmental Assessment (EA) to support the review of Cabot's proposed DP and license amendment request, in accordance with the requirements of 10 CFR Part 51. Based on staff evaluation, the conclusion of the EA is a Finding of No Significant Impact (FONSI) on human health nor the environment for the proposed licensing action.

FOR FURTHER INFORMATION, CONTACT: Mr. Theodore Smith, Decommissioning Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Mail Stop T7-F27, Washington, DC 20555. Telephone (301) 415-6721.

SUPPLEMENTARY INFORMATION:

Background:

The Kawecki Chemical Company - Penn Rare Division (Cabot's predecessor), was first licensed to store uranium and thorium at the Revere site in October 1969, by NRC's predecessor, the Atomic Energy Commission. The license was amended in June 1970, authorizing the licensee [then known as Kawecki Beryllium Industries (KBI)] to process up to 1,800 kilograms (4,000 pounds) of ore concentrates containing up to 2 percent natural thorium and 1.5 percent natural uranium.

The uranium and thorium were contained in pyrochlore-bearing ores purchased for production of columbium and tantalum. The end product from the licensee's process was purified columbium and tantalum used for manufacturing high-strength metals and electronic components. At the Revere site, columbite and pyrochlore ores were blended with aluminum and iron powder. The mixture was ignited in a crucible wherein the aluminum reduced the columbium oxide in the ore by a thermite process. The iron alloyed to form ferrocolumbium, while the spent aluminum and other oxides, and the uranium and thorium from the ore, were melted into process slag. The thorium- and uranium-bearing slag was stored on site in four different locations. Processing of source material-bearing ores ceased in 1978, although the

license was not changed until December 1983, when it was amended to authorize only possession of uranium and thorium at Revere. KBI maintained the Revere site for source material possession-only, with no activity until 1987, at which time Cabot Corporation became the licensee of record through acquisition of KBI.

In 1988, Cabot began onsite decommissioning activities for Revere, including site characterization, determination of slag leach rates, surface gamma measurements, and radiological analysis of surface and subsurface samples. Contaminated areas were remediated in a series of clean-up actions and site surveys in the early 1990s. The first site DP submitted to NRC in August 1996, was replaced in November 1997 by a DP that analyzed the site in accordance with current license termination requirements. This DP was amended in March 2001, in response to additional questions from NRC staff.

In the March 2001 DP, the licensee demonstrated that the Revere site is in compliance with requirements for license termination with no further remediation. The DP (as amended in April 2001) and accompanying Radiological Assessment assert that residual radioactivity distinguishable from background at Revere meets the unrestricted release criteria established in 10 CFR 20.1402 of the License Termination Rule (LTR). The LTR requires that the total effective dose equivalent to an average member of the critical group, as determined by licensee analysis and NRC review, does not exceed 0.25 millisieverts per year (mSv/yr) [25 millirem (mrem/yr)], from all exposure pathways, and that the residual radioactivity has been reduced to levels that are as low as is reasonably achievable (ALARA). Although Cabot's Revere site is a Site Decommissioning Management Plan (SDMP) site, Cabot decided to demonstrate compliance with the newer LTR requirements and not the SDMP action criteria.

Site production records, quality assurance documents, and inspection reports indicate

that a total of about 23,000 kilograms (50,000 pounds) of uranium and thorium-bearing ores were stored and processed at the Revere site. Subsurface contamination reports and remediation reports indicate a total contaminated volume (clean slag, soil and building debris intermixed with contaminated slag) of 23,186 cubic meters (m<sup>3</sup>) [818,700 cubic feet (ft<sup>3</sup>)] at the site. Cabot later revised the volume estimate to be 15,180 m<sup>3</sup> (536,010 ft<sup>3</sup>) by using the minimum values for each area in the reports. Cabot estimated the average concentration of the contaminated volume to be 0.052 Becquerels per gram (Bq/g) [picocuries per gram (0.14 pCi/g)] for total thorium and 0.013 Bq/g (0.34 pCi/g) for total uranium using a volume of 23,186 m<sup>3</sup>, although it considered concentrations based on the minimum reported volume, which would be approximately 50 percent more.

#### Summary of the EA:

The NRC staff performed an assessment of the environmental impacts associated with implementation of Cabot's DP for the Revere site, in accordance with 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions." In conducting its appraisal, the NRC staff considered the following information: (1) Cabot's Revere Site DP, as amended; (2) Cabot's Revere Site Radiological Assessment, as amended; (3) previous environmental evaluations of the Revere site; (4) data contained in environmental monitoring and survey reports; (5) the results of NRC staff site visits and inspections of the Revere facility; and (6) consultations with the Pennsylvania Department of Environmental Protection (PADEP). The results of the staff's appraisal, a FONSI, are documented in an EA. The safety aspects for the proposed action are discussed separately in a Safety Evaluation Report (SER).

#### Conclusions:

The NRC staff has evaluated the actual and potential impacts associated with implementation of the DP and removing Revere from Cabot's license and has determined that the amendment to Source Material License SMC-1562 will: (1) be consistent with the requirements of the LTR and Part 40, "Domestic Licensing of Source Material", (2) not be inimical to public health and safety; and (3) not have detrimental impacts on the environment. The following statements summarize the conclusions of the staff's EA, and support the FONSI:

1. In the most bounding scenario analyzed by staff, which conservatively estimated the potential dose to an average member of the critical group within 1000 years after license termination, the largest calculated dose was 0.2 mSv/yr (20 mrem/yr), and the dose is ALARA, which meets the LTR.

2. There are no impacts on cultural and historic areas, and further evaluation of cultural and historical resource concerns is not warranted.

3. There are no impacts on endangered nor threatened species nor habitat, and further evaluation of endangered and threatened species concerns is not warranted.

4. There are no disproportionately high and adverse effects nor impacts on minority and low-income populations, and further evaluation of environmental justice concerns, as outlined in Executive Order 12898 and NRC's Office of Nuclear Material Safety and Safeguards Policy and Procedures Letter 1-50, Revision 1, is not warranted.

Proposed Action:

The NRC is proposing to remove the Revere site from Cabot's source materials license without further remediation, since it meets the LTR unrestricted release requirements of 0.25 mSv/yr (25 mrem/yr) and ALARA.

### The Need for Proposed Action:

NRC regulation 10 CFR 40.42 (the "Timeliness Rule") requires licensees to decommission their facilities when licensed activities cease, and to request termination of their radioactive materials licenses. The purpose of the Timeliness Rule is to reduce the potential risk to the public and environment that may result from delayed decommissioning of inactive facilities and sites. The purpose of this action is to remove Revere from Cabot's source material license, and the SDMP list because Cabot no longer uses source materials at the site. The site would no longer be subject to NRC regulatory oversight.

### Alternatives to Proposed Action:

There are two alternatives to the proposed action of allowing unrestricted release of the site and removing it from the license: (1) no action; and (2) to excavate and transport the contaminated material directly to a licensed disposal facility. The no-action alternative is not acceptable because it will result in violation of NRC's Timeliness Rule.

The second alternative is not cost-effective, as demonstrated by the licensee's cost estimate, for additional site remediation, of approximately 9 million dollars (in 1996 dollars), with no significant increase in public health or safety or protection of the environment.

### Environmental Impacts of Proposed Action:

There are no impacts associated with the proposed action, as no further remediation activities will be conducted at the Revere site. Based on its review, the NRC staff has



concluded that the environmental impacts associated with the proposed action do not warrant either denial of the licensee's request, or additional site remediation. Additionally, in the SER prepared for this action, the staff has reviewed the licensee's proposed action with respect to the criteria for license termination, specified in 10 CFR Part 20, Subpart E, and has no basis for denial of the proposed action. Therefore, the staff concludes that the proposed alternative is appropriate.

#### Agencies And Individuals Consulted:

NRC staff prepared the EA. No other sources were used beyond those referenced in the EA.

NRC staff provided a draft of the EA to the PADEP for review. By letter dated April 26, 2001, PADEP concurred with NRC's conclusion that the requirements for radiological unrestricted release have been met.

#### Finding of No Significant Impact

The NRC staff has prepared an EA for the proposed amendment to NRC Source Material License SMC-1562. On the basis of this assessment, the NRC staff has concluded that the environmental impacts that may result from the proposed action would not be significant, and therefore, preparation of an Environmental Impact Statement is not warranted.

The EA and other documents related to this proposed action are available for public inspection and copying at the NRC Public Document Room in NRC's One White Flint North Headquarters building, located at 11555 Rockville Pike (first floor), Rockville, Maryland; and in the Agency-wide Documents Access and Management System (ADAMS) Public Electronic

Reading Room at Web address <<http://www.nrc.gov/ADAMS/index.html>>.

### **Notice of Opportunity for Hearing**

The Commission hereby provides notice that this is a proceeding on an application for a licensing action falling within the scope of 10 CFR Part 2, Subpart L, "Informal Hearing Procedures for Adjudications in Materials and Operator Licensing Proceedings," of the Commission's Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders.

Pursuant to 10 CFR 2.1205(a), any person whose interest may be affected by this proceeding may file a request for a hearing. In accordance with 10 CFR 2.1205(d), a request for a hearing must be filed within thirty (30) days from the date of publication of the Federal Register notice.

The request for a hearing must be filed with the Office of the Secretary either:

(1) By delivery to the Rulemakings and Adjudications Staff of the Office of the Secretary at One White Flint North, 11555 Rockville Pike, Rockville, MD 20852; or

(2) By mail, telegram, or facsimile addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Rulemakings and Adjudications Staff. In accordance with 10 CFR 2.1205(f), each request for a hearing must also be served, by delivering it personally or by mail to:

(1) The applicant, Cabot Corporation, P.O. Box 1608, County Line Road, Boyertown, PA 19512-1608;

(2) The NRC staff, by delivery to the Office of the General Counsel, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852.

In addition to meeting other applicable requirements of 10 CFR Part 2 of the Commission's regulations, a request for a hearing filed by a person other than an applicant must describe in detail:

(1) The interest of the requestor in the proceeding;

(2) How that interest may be affected by the results of the proceeding, including the reasons why the requestor should be permitted a hearing, with particular reference to the factors set out in 10 CFR 2.1205(h);

(3) The requestor's areas of concern about the licensing activity that are the subject matters of the proceeding; and

(4) The circumstances establishing that the request for a hearing is timely in accordance with 10 CFR 2.1205(d).

Any hearing that is requested and granted will be held in accordance with the Commission's "Informal Hearing Procedures for Adjudications in Materials and Operator Licensing Proceedings" in Part 2, Subpart L.

Dated at Rockville, Maryland, this        day of June 2001.

FOR THE NUCLEAR REGULATORY COMMISSION

Larry W. Camper, Chief  
Decommissioning Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards