

October 18, 2005

Mr. Michael Cook, Director  
Office of Superfund Remediation  
and Technology Innovation  
U.S. Environmental Protection Agency  
M.S. 5210G  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

SUBJECT: NOTIFICATION OF THE DECOMMISSIONING OF KERR-MCGEE, CUSHING  
SITE

Dear Mr. Cook:

This letter is to notify you of the decommissioning oversight actions that the U.S. Nuclear Regulatory Commission (NRC) has taken, and intends to take, for the Kerr-McGee (KM), Cushing site located in Cushing, Oklahoma.

On October 9, 2002, NRC and the U.S. Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." The MOU provides that, unless an NRC-licensed site exceeds any of three trigger criteria contained in the MOU, EPA agrees to a policy of deferral to NRC decision-making on decommissioning without the need for consultation.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: (1) before NRC's approval of the license termination plan (LTP) or decommissioning plan (DP), (Level 1 consultation); and (2) after completion of the final status survey (FSS), (Level 2 consultation). Although NRC's plan for consulting with EPA calls for the initial Level 1 consultation to occur early in the decommissioning process, at the time the MOU was signed, NRC had several sites that were in the later stages of the LTP/DP process. Since these sites were further along in the decommissioning process, the next opportunity to consult with EPA would be a Level 2 consultation after the completion of the FSS.

This letter is to notify you that the KM, Cushing site will require a Level 2 consultation because of groundwater contamination that exceeds the EPA maximum contaminant levels (MCLs), one of the three criteria that triggers consultation. The licensee submitted a DP,<sup>1</sup> which was approved by NRC in August 1998. The approved DP contains a concentration guideline level for thorium-232, depleted uranium (U), and enriched U in soil of: (a) 0.185 becquerels per gram (Bq/g) [5.0 picocuries per gram (pCi/g)]; (b) 1.3 Bq/g (35 pCi/g); and (c) 1.11 Bq/g (30 pCi/g), respectively. It is not anticipated that any concentrations of residual radioactivity in the soil will exceed the values triggering consultation in the MOU.

---

<sup>1</sup> *Kerr-McGee Cushing Refinery Site, Site Decommissioning Plan, Revision 6 - April 2004, Docket No. 70-3073.* The DP is available in NRC's electronic reading room at <http://www.nrc.gov/reading-rm.html> (ML041100146).

M. Cook

- 2 -

The DP committed the licensee to conduct a thorough groundwater assessment of the site, which KM completed in 2003. The groundwater assessment determined the existence of a small plume of groundwater contaminated with uranium isotopes at concentrations exceeding the MCL for U in groundwater. NRC approved an alternate concentration limit (ACL) for total U in this shallow groundwater.

As part of the DP review and approval process, the NRC staff prepared an environmental assessment (EA) to evaluate the environmental impacts of approving the proposed DP.<sup>2</sup> A summary of the EA was published in the *Federal Register* on August 23, 1999, at 64 FR 45982. The EA concludes that approval of the DP would not result in any significant impacts on the human environment and is protective of human health. In addition, the approval of the DP was based on the NRC staff's safety evaluation report (SER) issued on August 23, 1999.<sup>3</sup> The SER concludes that the activities described in the DP are consistent with the Commission's regulations and that approval of the DP would not be inimical to the common defense and security, nor to the health and safety of the public.

NRC is currently reviewing the FSS Reports for the Cushing site. License termination is anticipated in December 2005. Details of the NRC approval of the groundwater ACL and additional relevant information are enclosed. The enclosure includes references to documents that are in the NRC Agencywide Documents Access and Management System for your staff's information. After your staff's review of the enclosure and other relevant information, please contact Mr. Daniel Gillen, the Deputy Director of the Decommissioning Directorate in the Division of Waste Management and Environmental Protection, at 301-415-7295, to establish the time frame and conditions for the Level 2 consultation for the KM Cushing site.

Sincerely,

**/MFederline for RA/**

Jack R. Strosnider, Director  
Office of Nuclear Material Safety  
and Safeguards

Docket no.: 70-3073  
License No.: SNM-1999

Enclosure: "Background Information for Level 2 Consultation on Cushing Refinery Site"

---

<sup>2</sup> *The Office of Nuclear Material Safety and Safeguards, Environmental Assessment, and Finding of No Significant Impact, Related to Amendment 10 to Materials License No. SNM-1999, Kerr-McGee Corporation, Cushing Refinery Site, August 10, 1999, Docket No. 70-3073. The EA is available in NRC's electronic reading room at <http://www.nrc.gov/reading-rm.html> (ML9908160149).*

<sup>3</sup> *The Office of Nuclear Material Safety and Safeguards, Safety Evaluation, Related to Amendment 10 to Materials License No. SNM-1999, Kerr-McGee Corporation, Cushing Refinery Site, August 23, 1999, Docket No. 70-3073. The SER is available in NRC's electronic reading room (ML9908270098).*

The DP committed the licensee to conduct a thorough groundwater assessment of the site, which KM completed in 2003. The groundwater assessment determined the existence of a small plume of groundwater contaminated with uranium isotopes at concentrations exceeding the MCL for U in groundwater. NRC approved an alternate concentration limit (ACL) for total U in this shallow groundwater.

As part of the DP review and approval process, the NRC staff prepared an environmental assessment (EA) to evaluate the environmental impacts of approving the proposed DP.<sup>4</sup> A summary of the EA was published in the *Federal Register* on August 23, 1999, at 64 FR 45982. The EA concludes that approval of the DP would not result in any significant impacts on the human environment and is protective of human health. In addition, the approval of the DP was based on the NRC staff's safety evaluation report (SER) issued on August 23, 1999.<sup>5</sup> The SER concludes that the activities described in the DP are consistent with the Commission's regulations and that approval of the DP would not be inimical to the common defense and security, nor to the health and safety of the public.

NRC is currently reviewing the FSS Reports for the Cushing site. License termination is anticipated in December 2005. Details of the NRC approval of the groundwater ACL and additional relevant information are enclosed. The enclosure includes references to documents that are in the NRC Agencywide Documents Access and Management System for your staff's information. After your staff's review of the enclosure and other relevant information, please contact Mr. Daniel Gillen, the Deputy Director of the Decommissioning Directorate in the Division of Waste Management and Environmental Protection, at 301-415-7295, to establish the time frame and conditions for the Level 2 consultation for the KM Cushing site.

Sincerely,

**/MFederline for RA/**

Jack R. Strosnider, Director  
Office of Nuclear Material Safety  
and Safeguards

Docket no.: 70-3073  
License No.: SNM-1999

Enclosure: "Background Information for Level 2 Consultation on Cushing Refinery Site"

**DISTRIBUTION:**

DCD r/f      DWMEP r/f      RidsNmssod      RidsOGCMailCenter      NMSS r/f

**ML052580107**

OFFICE	DWMEP:PM	DWMEP:SC	DWMEP:DD	DWMEP:D	Tech Ed	OGC	NMSS:D
NAME	DWidmayer	APersinko	DGillen	LWCamper	EKraus	STreby	MFederline for JRStrosnider
DATE	9/16/05	9/19/05	9/20/05	9/20/05	10/7/05	10/6/05	10/17/05

<sup>4</sup> *The Office of Nuclear Material Safety and Safeguards, Environmental Assessment, and Finding of No Significant Impact, Related to Amendment 10 to Materials License No. SNM-1999, Kerr-McGee Corporation, Cushing Refinery Site, August 10, 1999, Docket No. 70-3073. The EA is available in NRC's electronic reading room at <http://www.nrc.gov/reading-rm.html> (ML9908160149).*

<sup>5</sup> *The Office of Nuclear Material Safety and Safeguards, Safety Evaluation, Related to Amendment 10 to Materials License No. SNM-1999, Kerr-McGee Corporation, Cushing Refinery Site, August 23, 1999, Docket No. 70-3073. The SER is available in NRC's electronic reading room (ML9908270098).*

