





**KERR-McGEE CHEMICAL, LLC**  
KERR-McGEE CENTER • P.O. BOX 25861 • OKLAHOMA CITY, OKLAHOMA 73125

NOV 10 2000

November 10, 2000

Mr. Charles L. Cain, Chief  
Licensing Branch  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission – Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011

**Re: Kerr-McGee Technical Center  
Docket No. 040-08006; License No. SUB-986  
Control No. 468057**

Dear Mr. Cain:

The purpose of this letter is to respond to NRC staff's correspondence dated August 11, 2000, which requested that Kerr-McGee Corporation submit a revised Decommissioning Plan in order to incorporate additional guidance contained in NUREG-1575. NRC staff specifically identified elements that they believed would need to be included in a revised Decommissioning Plan.

Kerr-McGee Corporation has reviewed the above-referenced guidance as well as the characterization work performed to date and has determined that additional characterization and subsequent Modeling/DCGL development work will be required. Kerr-McGee Corporation has also identified additional impacted areas that will require further characterization. Kerr-McGee Corporation has initiated this work and currently anticipates being able to submit a revised Decommissioning Plan by the end of February 2001. Kerr-McGee Corporation is hopeful that winter weather constraints and coordination with ongoing Technical Center R&D activities will not result in any additional delays.

Please feel free to contact me if there are any additional questions or concerns.

Sincerely,

Jess Larsen  
Program Manager

# CIMARRON CORPORATION LETTER OF TRANSMITTAL

DATE : 07/11/2000

**TO:** Mr. Charles Cain  
 U.S. Nuclear Regulatory Comm.  
 Region IV  
 611 Ryan Plaza Drive, Suite 400  
 Arlington, TX 76011

**FROM:** LaVonna Smith, Quality Assurance Coordinator  
 Cimarron Corporation  
 P.O. BOX 315  
 Crescent, OK 73028

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|---|---|--|
| <input type="checkbox"/> First Class Mail   | <input type="checkbox"/> Internal   | <input type="checkbox"/> Overnight--UPS      |
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| <input type="checkbox"/> Second Day--Fed Ex | <input checked="" type="checkbox"/> Other <u>Registered &amp; Certified</u> |  |

COPY NO.	DATE	DESCRIPTION
4	JULY, 2000	TECHNICAL CENTER DECOMMISSIONING PLAN

These are transmitted as checked below:

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| <input type="checkbox"/> As requested | <input type="checkbox"/> Returned for corrections | <input type="checkbox"/> Return <u>      </u> corrected prints |
| <input type="checkbox"/> Disapproved  | <input type="checkbox"/> For review and comment   | <input type="checkbox"/> Controlled copy                       |

**REMARKS:** The above item(s) is for your use. Please sign and return transmittal letter.

**NOTE:**

**SIGNATURE:** *LaVonna Smith*

**ACKNOWLEDGMENT OF RECEIPT**

**PLEASE RETURN ONE SIGNED COPY TO SENDER**

I HAVE RECEIVED THE DOCUMENTS IDENTIFIED ABOVE AND THE PRIOR REVISIONS OF THESE  
 HAVE BEEN DESTROYED N/A VOIDED N/A

PRINTED NAME OF RECIPIENT: Colleen Murnahan for Charles Cain

SIGNATURE OF RECIPIENT: *Colleen Murnahan*

DATE RECEIVED: 7/14/2000 *dm*

*If enclosures are not noted, kindly notify Cimarron Corporation at once.*

# **CIMARRON CORPORATION**

P.O. BOX 25861 • OKLAHOMA CITY, OKLAHOMA 73125

S. JESS LARSEN  
VICE PRESIDENT

July 11, 2000

Mr. Ellis Merschoff, Director  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission – Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, Texas 76011-8064

Re: Docket No. 040-08006; License SUB-986

Dear Mr. Merschoff:

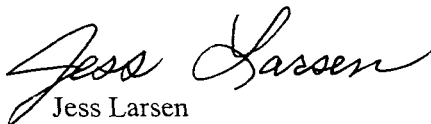
As described in our 01/07/99 correspondence to Mr. Scarano and subsequent 01/22/99 meeting in Arlington, Kerr-McGee Corporation plans to decommission the “test pits” and terminate License SUB-986 for the Kerr-McGee Technical Center, located in north Oklahoma City. The Technical Center has utilized small quantities of source material under this license for research and development purposes over the last 30+ years.

Kerr-McGee Corporation has developed the enclosed “Decommissioning Plan for Kerr-McGee Chemical L.L.C. Technical Center” in accordance with the guidance contained in NUREG/BR-0241. The Kerr-McGee Technical Center falls under the Type III decommissioning review as provided in NUREG/BR-0241 and thus we understand that the decommissioning will be under the direction of NRC Region IV.

Kerr-McGee Corporation would like to arrange a meeting with NRC Region IV in Arlington within the next month to discuss the details of the Decommissioning Plan with NRC personnel.

Please feel free to contact me if there are any additional questions or concerns.

Sincerely,



Jess Larsen  
Program Manager

Enclosure

KERR-McGEE CHEMICAL, LLC  
 Technical Center Decommissioning Plan  
 NRC License: SUB-986  
 Docket 040-08006

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TECHCNTR_002_REV_0	Kerr-McGee Technical Center Facility and Test Pit Area
TECHCNTR_003_REV_0	Kerr-McGee Technical Center Uranium Test Pit Area Potentiometric Surface 2/22/2000

## REFERENCES

1. NRC Source Material License SUB-986.
2. Byproduct Materials License 35-12636.06.
3. Letter Dated March 2, 1998, NRC Region IV – terminating the Byproduct Material License.
4. NMSS Handbook for Decommissioning Fuel Cycle and Materials Licensees. NUREG/BR0241, March 1997.
5. Title 10 Code of Federal Regulations Section 51.22 (c) (14) (v) – Use of radioactive materials for research and development and for educational purposes.
6. Title 10 Code of Federal Regulations Section 20.302 – Method for obtaining approval of proposed disposal procedures.
7. Title 10 Code of Federal Regulations Section 20.304.
8. Title 10 Code of Federal Regulations Section 40.36 – Federal Assurance and Recordkeeping for Decommissioning.
9. MARRSSIM, Section 5.5.2.2.
10. Working Draft Regulatory Guide on Release Criteria for Decommissioning: NRC Staff's Draft for Comment. NUREG 1500, August 1994.
11. NRC "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or termination of Licenses for Byproduct, Source, or Special Nuclear Material."
12. Colorado Department of Health, Interoffice Communication, Fugitive Dust Emissions, September 30, 1981.
13. Radiological Health Handbook, U.S. Department of Health, Education, and Welfare, Public Health Service, Revised 1970.
14. Environmental Protection Agency, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion," EPA-520/1-88-020, Federal Guidance Report No. 11, September 1988.
15. U.S. NRC, NUREG/CR-5512, PNL-7994, "Residual Radioactive Contamination from Decommissioning", Volume 1, Reprinted June 1994.
16. Turner, D. B., "Workbook of Atmospheric Dispersion Estimates," U.S. Department of Health, Education, and Welfare, Cincinnati, OH, 1969.
17. ANSI N323-1978, "Radiation Protection Instrumentation Test and Calibration."
18. Cimarron Quality Assurance Program Plan (QAP).
19. NRC Inspection Report #70-925/97-02.
20. NRC Inspection Report #70-925/98-02, November 3, 1998.
21. NRC Inspection Report #70-925/99-01.



KERR-McGEE TECHNICAL CENTER  
Decommissioning Plan  
License No. SUB-986; Docket 040-08006

## 1 Introductory Information

### 1.1 Purpose

The purpose of this Decommissioning Plan is to establish the management and technical protocols that Kerr-McGee Chemical, LLC (KMCLLC) will follow in addressing the presence of residual radioactivity at the Technical Center and allow it to terminate NRC Source Material License SUB-986<sup>1</sup> and release the entire facility for unrestricted use.

The Technical Center used nuclear materials under NRC source and byproduct materials licenses SUB-986<sup>1</sup> and 35-12636-06<sup>2</sup>, respectively. Byproduct material use consisted of sealed standards, check sources and integral components in analytical equipment. These byproduct sources have been removed from the facility, returned to the manufacturer, and the Byproduct Material License terminated by NRC Region IV by letter dated March 2, 1998<sup>3</sup>.

The Technical Center no longer uses licensed source materials and is therefore being decommissioned to allow for license termination and unrestricted release. Technical Center decommissioning activities will include survey, removal of any residual contamination, and the release of laboratories and support facilities such as sample storage and preparation facilities and five test pits (used for prospecting instrument calibration) where source materials were used. When completed, the facility will meet all applicable unrestricted release criteria.

Kerr-McGee Chemical, LLC (KMCLLC) has been notified by the Oklahoma Department of Transportation (ODOT) that it will be expanding State Highway 74 and thus will be expanding the existing right-of way that may include the area where the uranium calibration test pits are located. This expansion will involve constructing a multiple-lane median separated highway with frontage roads. This factor gives additional impetus to expedite the removal and release of the area.

Decommissioning will be performed under written policies and procedures, incorporating appropriate methods outlined in NUREG/BR-0241<sup>4</sup> as required. In accordance with NUREG/BR-0241 criteria, Technical Center decommissioning activities fall within the Type III facility requirements since the authorized activities are covered under the categorical exclusion criteria in 10 CFR 51.22 (c) (14) (v) –“ Use of radioactive materials for research and development and for educational purposes”<sup>5</sup>. Work with source materials at the Technical Center was confined to small-scale, bench sized experiments using uranium or thorium materials obtained from ores or process streams at its formerly licensed fuel cycle facilities and for the development, testing and calibration of instrumentation used for mineral prospecting.

The batch type laboratory experiments were performed to develop and prove new or proposed changes to processes for the extraction and purification of uranium and

thorium. Successful laboratory testing led to operating facility process modifications or larger scale testing at other Kerr-McGee fuel cycle facilities. At no time did the Technical Center engage in the scale of production activities associated with a fuel cycle facility.

The uranium calibration test pits, containing varying known concentrations of source material, were used to develop and prove methods to identify uranium ores and their approximate concentrations in various ore bodies.

## **1.2 Licensee Identification**

License SUB-986<sup>1</sup> is currently managed by Kerr-McGee Chemical, LLC, (KMCLLC) which operates the Technical Center to conduct Research and Development activities in support of its chemical facilities. Decommissioning activities will be coordinated and managed by the Kerr-McGee Corporation Safety and Environmental Affairs Division, which has both the experience and managerial oversight responsibility for decommissioning activities at Kerr-McGee's NRC licensed Cimarron facility. To the extent practicable, both personnel and procedures from the Cimarron facility will be employed to assure that the Technical Center decommissioning is performed in accordance with all applicable regulatory requirements.

## **1.3 Licensee Activities**

### **1.3.1 Corporate R&D Center**

The Kerr-McGee Technical Center was established in 1963 to provide a dedicated research and development facility for conducting chemical and radiological analyses, doing small quantity bench and batch scale research and development studies on manufacturing processes and investigating new chemicals of interest to the Corporation's various operating divisions. The Technical Center also provided a core of highly experienced scientists and engineers to address technical and engineering problems and explore new technologies for application in support of the Corporation's initiatives. In this capacity, the Technical Center conducted R&D work for the Chemical, Nuclear, Refining, Oil & Gas Exploration and Production, Off-shore Contract Drilling, Wood Products and Potash Mining divisions. The work with radioactive materials required that the Technical Center have both a Byproduct and Source Material license.

### **1.3.2 Kerr-McGee Chemical, LLC R&D Center**

The Kerr-McGee Corporation Technical Center was turned over to Kerr-McGee Chemical, LLC (KMCLLC) management oversight in 1995. Many of Kerr-McGee's operating divisions had either been divested or were in the process of being divested at that time. KMCLLC was the only remaining Kerr-McGee operating division with R&D activities requiring Company controlled analytical and laboratory functions.

In January, 1999, KMCLLC, through its West Chicago Project Office, informed Kerr-McGee Corporate management that it would no longer require the Technical Center to maintain the source materials use authorizations provided by SUB-986<sup>1</sup> to support any work. This decision prompted KMCLLC to request that Kerr-McGee Corporation, through its Safety and Environmental Affairs Division, provide management and support in decommissioning the Technical Center for license termination and unrestricted release.

Safety and Environmental Affairs Division personnel, in cooperation with KMCLLC management, Cimarron Facility Management and RSO and the Technical Center management and RSO, were assigned primary responsibility for working with NRC to achieve license termination.

JUL 18 2000

DATE

This is to acknowledge the receipt of your letter/application dated 7/11/00, and to inform you that the initial processing, which includes an administrative review, has been performed.

There were no administrative omissions. Your application will be assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card:

---

The action you requested is normally processed in 90 days.

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned Mail Control Number 468057.  
When calling to inquire about this action, please refer to this mail control number.  
You may call me at 817-860-8103.

Sincerely,

*Colleen Murnahan*

Licensing Assistant



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

May 23, 1996

KERR-MCGEE CORP.  
ATTN: Mr. JOHN M. CARVER  
Radiation Safety Officer  
KERR MCGEE CENTER  
123 ROBERT S. KERR AVENUE  
OKLAHOMA CITY, OK 73125

SUBJECT: ONE-TIME EXTENSION OF LICENSE EXPIRATION DATE  
LICENSE NUMBER SUB-986, DOCKET NUMBER 4008006

Dear Mr. JOHN M. CARVER

On January 16, 1996, the Nuclear Regulatory Commission (NRC) amended its regulations in 10 CFR 30, 40, and 70 to extend the expiration date of certain byproduct, source, and special nuclear material licenses by five years (61 FR 1109). The above referenced license was extended by this rulemaking and will now expire on January 31, 2003. Your license will not be amended to show this extended date until the next routine licensing action. Until then, you may provide copies of this letter to vendors and other interested parties as evidence that the license has been extended as a result of the rule.

The extended license authorizes the same activities and contains the same limitations as it previously did. There will be no change in the frequency that the NRC inspects activities authorized by this license.

The amended rules state that in the case of licensees who are granted extensions and who have a currently pending renewal application for that extended license, the application will be considered withdrawn by the licensee and any renewal fees paid by the licensee for that application will be refunded. This will apply to licenses with expiration dates after July 1, 1995, for which renewal applications and the appropriate fees have been submitted and the renewal is still pending. Refunds will be mailed to licensees under separate cover.

All licensees, including those whose renewal applications were withdrawn by this rulemaking, who wish to change their radiation safety programs must request amendment of their licenses to reflect these changes. Amendment requests must include the correct amendment fee since the NRC cannot apply pending renewal refund balances toward amendment fees.

If you have any questions regarding this letter, please contact the individual below.

Arlington, TX: Billie Gruszynski, (817) 860-8120  
Walnut Creek, CA: Beth Prange, (510) 975-0250

Thank you for your cooperation in this matter.

Sincerely,

Donald A. Cool, Director  
Division of Industrial and Medical Nuclear Safety  
Office of Nuclear Materials Safety and Safeguards

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<p style="text-align: center;">Licensee</p> <p>1. Kerr-McGee Corporation</p> <p>Kerr-McGee Center 123 Robert S. Kerr Avenue Oklahoma City, Oklahoma 73125</p>	<p>In accordance with application dated November 27, 1990</p> <p>3. License number SUB-986 is amended in its entirety to read as follows:</p>
	4. Expiration date February 28, 1998
	5. Docket or Reference No. 040-08006

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium (Natural)	A. Any	A. 250 kilograms
B. Thorium (Natural)	B. Any	B. 150 kilograms
C. Uranium, Depleted	C. Any	C. 35 kilograms

9. Authorized use:
- A. Research and development as defined in 10 CFR 30.4. Calibration of licensees instruments.
  - B. Purification and concentration process development studies.
  - C. Research and development as defined in 10 CFR 30.4. Calibration of licensees instruments.

CONDITIONS

- 10. Licensed material shall be used only at the Kerr-McGee Corporation, Technical Center, 3301 N.W. 150th Street, Oklahoma City, Oklahoma.
- 11. A. Licensed material shall be used by, or under the supervision of, Gareth E. Van De Steeg and Elizabeth J. Johnson.
- B. The Radiation Protection Officer for this license is Elizabeth J. Johnson.

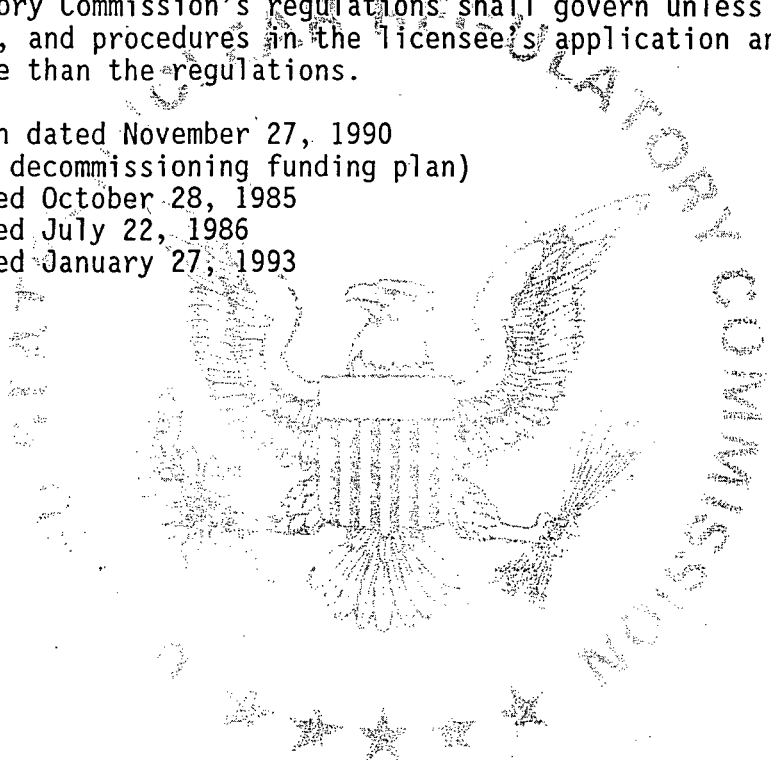
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**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License number	SUB-986
Docket or Reference number	040-08006
Amendment No. 08	

12. The licensee shall maintain records of information related to decommissioning at Kerr-McGee Technical Center, 3301 N.W. 150th Street, Oklahoma City, Oklahoma, as specified in 10 CFR 40.36(f) until this license is terminated by the Commission.
13. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
  - A. Application dated November 27, 1990  
(Excluding decommissioning funding plan)
  - B. Letter dated October 28, 1985
  - C. Letter dated July 22, 1986
  - D. Letter dated January 27, 1993



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Original Signed By  
Jack E. Whitten

Date FEB 18 1993

By \_\_\_\_\_  
Nuclear Materials Licensing Section