KERR McGEE CHEMICAL L.L.C.
TECHNICAL CENTER
OKLAHOMA CITY, OK

APPLICATION DATED: JULY 11, 2000
REVISION DATED: APRIL 5, 2001

FINAL SAFETY EVALUATION REPORT

August 1, 2005

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DOCKET: 040-08006
LICENSE: SUB-986

LICENSEE: Kerr McGee Corporation, Technical Center, Oklahoma City , OK

SUBJECT: FINAL SAFETY EVALUATION REPORT:
APPLICATION DATED JULY 2000 AND REVISED MARCH 2001
TO APPROVE LICENSE TERMINATION FOR KERR McGEE CORPORATION,
(KERR McGEE TECHNICAL CENTER)

1.0 BACKGROUND AND PROPOSED ACTION

1.1 Background

Kerr-McGee Corporation's NRC License No. SUB-986 is managed by Kerr-McGee Chemical, LLC., which operates the Technical Center. The Kerr-McGee Technical Center (KMTC) was established in 1963 to provide research and development for chemical and radiochemical laboratory analyses, which would ultimately be conducted by other business units in the company. The primary use of the radioactive source material was for the development, testing and calibration of instruments used for the company's mineral prospecting business unit. At no time did KMTC engage in the degree of production activities associated with a fuel cycle facility.

In January 1999, the licensee made a business decision that it would no longer require source materials use authorizations, provided by NRC License No. SUB-986. Additionally, the Oklahoma Department of Transportation (ODOT) had notified KMTC that the department would be expanding State Highway 74. This highway expansion project may include the land where the uranium calibration test pits, previously used under the license, were located.

The licensee completed the remediation of the test pits and the facility in accordance with the Decommissioning Plan (DP) which was approved on June 5, 2003, as documented in Amendment No. 09, of the NRC license. The Region IV office of the NRC conducted inspection oversight of the remediation activities at KMTC. The NRC staff conducted confirmatory in-process surveys which consisted of taking split sample analyses of the soil and surface water to assess the levels of contamination remaining in the outdoor areas, after the respective areas had been remediated. Additionally, the NRC staff conducted confirmatory radiological surveys of the indoor research and development laboratories where decommissioning activities had been performed.

The licensee subsequently submitted the Final Status Survey Report (FSSR) for the outdoor survey units on September 15, 2003. The indoor FSSR was submitted on April 14, 2004, with a supplement submitted on December 3, 2004, for the embedded and buried piping. The NRC staff performed a technical review and approved the FSSR for the outdoor and indoor survey units by letters dated February 9, 2004, and June 28, 2005, respectively.

1.2 Purpose and Need for Proposed Action

The purpose of the proposed action is to reduce residual contamination at the KMTC and release the site for unrestricted use. The NRC is fulfilling its responsibilities under the Atomic Energy Act to make a decision on a proposed license amendment for termination of the NRC Source Materials License. This determination ensures protection of the public health and safety and the environment.

1.3 Description of Proposed Action

The NRC staff has evaluated the DP and derived concentration guideline levels (DCGLs), and developed an Environmental Assessment (EA) in accordance with the requirements of 10 CFR Part 51. Based on the staff evaluation, the conclusion of the EA is a Finding of No Significant Impact (FONSI) on human health and the environment for the proposed licensing action. The FONSI was published in the *Federal Register* on July 12, 2001 (FR36605).

The license termination will be based on NRC staff's approval of the licensee's FSSR as documented in letters dated February 9, 2004, and June 28, 2005, for the outdoor and indoor survey units, respectively.

2.0 FACILITY OPERATING HISTORY

The KMTC was established in 1963 to provide research and development for chemical and radiochemical laboratory analyses, which would ultimately be conducted by other business units in the company. The Kerr-McGee Corporation's NRC License SUB-986 authorized the licensee to use natural uranium up to 250 kilo-grams (kg), natural thorium up to 150 kg and depleted uranium up to 35 kg. The license authorized the source material to be in any chemical or physical form. The primary use of the source material was for the development, testing and calibration of instruments used for the company's mineral prospecting business unit. The licensee used the source material for batch type laboratory experiments to develop and prove new or proposed changes to processes for the extraction and purification of uranium and thorium. The laboratory testing conducted at KMTC led to either process modifications or larger scale testing at other Kerr-McGee fuel cycle facilities. At no time did KMTC engage in the scale of production activities associated with a fuel cycle facility.

Source material was used in the facility's laboratories, sample preparation and sample storage shed and in five uranium calibration test pits. The uranium material in the form of U_3O_8 used in the calibration test pits had been blended with natural sands to produce a known, diluted-concentration of uranium and its daughter products. The blended sand, containing U_3O_8, was used as calibration sources for instrument standardization and for instrument research and development activities.

Most of the blended uranium was buried in the sealed uranium calibration test pits which were located out-of-doors, at a distance of approximately 250 yards from the building structure. Each uranium calibration test pit consisted of 1.8 m (6 ft) diameter corrugated steel pipe. which was 3.7 m (12 ft) long. The steel pipe was placed vertically into the ground and sealed on the bottom by a steel plate. The top and bottom segments of the pipe contained clean sand. The middle 1.8 m (6 ft) section contained the blended uranium source material. In the centerline of the steel pipe, the licensee installed an 11.4 cm (4.5 inches) outer diameter (OD) fiberglass pipe. This smaller fiberglass pipe provided the capability to lower monitoring instruments for calibration into the test pit. A locked steel cover closed the tube when the test pits were not in use. Five of the eight test pits contained source material consisting of U_3O_8. Three remaining test pits at the site never contained source material.

There was a total of approximately 24 m^3 (32 cubic yards) of source material in the five pits with an average U_3O_8 concentration of approximately 0.25 weight percent. There was approximately 132 kg (290 lb) of U_3O_8, mostly in the form of crushed ore and sand with yellowcake.

3.0 FACILITY DESCRIPTION

3.1 Site Location and Physical Description

The KMTC is located in Oklahoma County approximately 15 miles northwest of downtown Oklahoma City and due west of Edmond, Oklahoma, at the intersection of NW 150th Street and State Highway 74. The site consists of approximately 160 acres of land, in which the facility buildings are located on approximately 10 acres. The remaining portion of the land area consists of grass fields or water, and not used for the facility's activities.

The area surrounding the facility is primarily rural; however, it is becoming more developed with suburban growth from Oklahoma City. A golf course has recently been constructed approximately 0.5 miles north of the facility. There are subdivisions and churches which are under construction or have recently been built approximately 0.5 - 1.0 mile east of the facility. Angie Debo Elementary School is located 0.3 miles east of the facility and a Child Development Center (day care) is located diagonally across the street from the entrance to the 160-acre grounds, which surrounds the 10-acre facility.

3.2 Geology and Soils

The KMTC is located in a shaly geologic area of Oklahoma known as the Shales of the Hennessey Group, which is characterized as red-brown to orange-brown that weather to soils characterized as a reddish-brown or dark brown, clay-loam which is 8 to 12 inches thick. This top layer is difficult to till and overlies a claypan subsoil. These upper soils, known as the Renfrow Series, are naturally well drained with low permeability. The soils are high in natural fertility but are susceptible to water erosion in sloping fields. These upper zone soils result in a water bearing zone that produces little water and movement making it unsuitable for resource development.

The Garber-Wellington aquifer is beneath the Hennessey Group shales. The uppermost unit is the Garber sandstone, characterized as primarily an orange-brown to red-brown, fine grained sandstone, irregularly bedded with red-brown shale and some chert and mudstone conglomerate. Its thickness varies from 150 to 400 feet or more.

The lowermost unit is the Wellington Formation. It is primarily a red-brown shale and orange-brown, fine grained sandstone, containing maroon mudstone conglomerate and chert conglomerate to the south. The thickness ranges from 150 to 500 feet. The base of the Garber-Wellington fresh water zone, in the KMTC vicinity, is approximately 525 feet.

3.3 Water Resources

The shallow groundwater associated with KMTC is located approximately 5 feet below the surface. This saturated zone produces little water, typically much less than 1 gallon per minute (gpm), as the ground consists of tight clays which have low permeability. Deep groundwater is of good quality, suitable for drinking water, if desired. The licensee has documented that the shallow water table is hydraulically isolated from the productive water bearing horizon of the Garber-Wellington formation by over 200 feet of predominantly silts, clays and generally fine-grained material. Thus, the Garber-Wellington aquifer is unaffected by the surface activities. This aquifer is used in the regional area for drinking water purposes.

4.0 RADIOLOGICAL STATUS OF THE FACILITY

4.1 Summary of Radiological Conditions

The decommissioning efforts at KMTC were initiated in calendar year (CY) 2000. The goal of these efforts were to release the entire 160-acre site and facilities for unrestricted use. The licensee's efforts involved characterization, decontamination, and remediation activities. Classification of survey units were established based upon a survey of historical information and analyses of the characterization data. In this context, the licensee submitted its DCGLs for soil and building surfaces based on ICRP-72 dose conversion factors, which were approved by the NRC and are depicted in Table 5 of this report. The licensee subsequently submitted its DCGLs for embedded and buried piping, which were approved by the NRC as depicted in Table 6 of this report.

4.2 Summary of Outdoor Survey Units

During the period CY 2000 through 2003, the licensee surveyed and remediated the outdoor portions of the KMTC site as described in the NRC approved DP. The licensee implemented the guidance from MARSSIM and performed scans, surveys, and soil sample measurements. The excavated soil was approximately 7-8000 cubic feet (ft^3), which was placed into 16 roll-off containers and shipped to Envirocare of Utah, Inc. The licensee completed the remediation of the test pits with inspection oversight by the Region IV office of the NRC. The NRC inspection oversight consisted of taking split sample analyses of the soils and surface water to assess the levels of contamination and subsequent remediation of the 24 outdoor survey unit areas. All measurements were below the criteria for unrestricted use. The highest confirmatory measurement from soils collected indicated activities not exceeding one-half of the fraction of the maximum permissible concentrations (FMPC) from the DP. The licensee submitted the FSSR for the outdoor survey units on September 15, 2003, which documented that the survey units did not exceed the approved DCGLs. The NRC staff approved the outdoor FSSR as documented by letter dated February 9, 2004; however, the NRC requested that the licensee submit a specific dose analysis for the indoor embedded and buried piping.

4.3 Summary of Indoor Survey Units

The licensee completed the remediation activities for the eleven survey units as described in the NRC approved DP. The licensee implemented the guidance from MARSSIM and performed scans and surveys for the indoor survey units. The NRC performed independent confirmatory measurements of the eleven indoor survey units. All direct measurements for fixed alpha and beta contamination and all wipe sample results for loose contamination ranged from background to approximately 6 uR/hr above background for the direct results. The highest net alpha measurement was 17 dpm/100 cm^2 and 6542 dpm/100 cm^2 for beta. All measurements were below the criteria for unrestricted use as approved in the DP. The licensee submitted the FSSR for the indoor survey units on April 15, with changes as submitted on April 27, 2004. The FSSR documented that the survey units did not exceed the approved DCGLs. The NRC staff approved the indoor FSSR as documented by letter dated June 28, 2005.

4.4 Summary of Buried and Embedded Piping

The licensee submitted its analysis for embedded and buried piping in the form of two technical memorandums, (TM 04-02 and TM 04-03). TM 04-02 provided information on use of the "Monte Carlo N Particle" (MCNP), a software code developed by Los Alamos National Laboratory to

simulate the pipe geometry and to relate the NaI detector response (count rate) to surface activity. TM 04-03 presented exposure scenarios and the dose calculations. The NRC requested additional information regarding the piping analysis, hence the licensee submitted three additional technical memorandums designated: TM-04-26, TM 04-28, and TM 04-29. The NRC reviewed the licensee's submittals and determined that the licensee adequately demonstrated that the embedded and buried piping met the radiological criteria for license termination. The NRC subsequently approved by letter dated June 28, 2005, the derived embedded piping DCGLs as shown in Table 6 of this report.

4.5 Radiological Status of Ground and Surface Water

The licensee proposed a DCGL of 226 pCi/l, for the release criteria of total uranium in groundwater. The licensee's calculation estimated that over 80 percent of the potential dose to a resident farmer would come from direct ingestion of groundwater by human inhabitants. NRC staff concurs with this estimate, and expects that they are conservative for the purposes of determining groundwater release criteria.

4.6 Radiological Safety Program

A few of the areas which were remediated had small volumes of radioactive materials in concentrations which resulted in exposure rates of 180 micro-Roentgen per hour (µR/hr) on contact with the ground surface. The exposure rate was reduced significantly with distance from the ground surface. Workers who performed the remediation activities did not receive any measurable exposure from licensed materials. Based on the licensee's calculations, as documented in the submitted DP, the highest expected dose to an onsite worker was approximately 100 mrem total effective dose equivalent (TEDE) from the decommissioning activities.

The licensee implemented a radiological safety program during decommissioning activities. The licensee excavated the soils from the test pits under their decommissioning procedures. Additionally, the licensee remediated other areas which had been identified during the MARSSIM Class 2 surveys conducted in areas surrounding the buildings and test pits. There was sufficient distance between the proposed remedial activities and public lands to ensure that any dose received would be insignificant. Airborne releases were not a pathway to the public. Consequently, there were no dose impacts, nor were they expected, to members of the public from remedial activities. There was no threat to public health and safety from the remedial activities.

The Region IV office of the NRC conducted four inspections during remediation activities (ADAMS Accession Nos. ML011520269, ML023500440, ML030370529, and ML042540486) to determine if procedures and activities were being conducted in accordance with the license, regulatory requirements, and the proposed DP. Confirmatory soil sample analysis results, exposure-rate measurements and building surface analyses were all below the proposed release criteria. The inspections were satisfactory and did not identify any violations.

4.7 Radiological Waste Management

The licensee's radioactive waste management program was reviewed under the NRC inspection program by the NRC Region IV office. The wastes generated during decommissioning activities were primarily soils containing uranium ore and/or yellowcake used to make up calibration standards. The source material wastes generated during decommissioning were transported Envirocare of Utah, Inc., a licensed low-level radioactive waste disposal facility.

5.0 ALARA ANALYSIS

The "Statements of Consideration" for 10 CFR Part 20, Subpart E (62 FR 39065, July 21, 1997), and the Final Generic Impact Statement (NUREG-1496), indicate that disposal of surface soil, at a licensed facility, for unrestricted release exposure scenarios meets the ALARA requirement and therefore, the licensee does not have to perform a cost justification as required by the Standard Review Plan. Kerr McGee Corporation removed the contaminated soil to achieve a calculated dose of less than 25 mrem/year; which is sufficient to comply with ALARA requirements.

The NRC staff reviewed the information submitted by Kerr McGee Corporation to demonstrate the preferred decommissioning option is ALARA as required by 10 CFR Part 20, Subpart E. The review was based on the criteria in the NMSS Decommissioning Standard Review Plan, Section 7.0, "ALARA Analysis." The NRC staff concluded that the preferred option provided reasonable assurance that the remediation would result in residual radioactivity levels which were ALARA. As indicated by the confirmatory surveys and sample analyses, the residual radioactivity is on the order of background levels and therefore, sufficiently met the criteria for unrestricted use.

6.0 DOSE MODELING EVALUATIONS

6.1 Indoor and Outdoor DCGLs

The licensee performed analyses of collected soil samples, scanning measurements and used historical information to classify soil survey units. The licensee calculated DCGLs for surface contamination of soils in the impacted areas of the facility using RESRAD code. The DCGL defines the maximum amount of residual contamination in soils or buildings, which satisfy NRC's regulations in 10 CFR Part 20, Subpart E, "Radiological Criteria for License Termination." The licensee used ICRP-72 dose factors in lieu of the default ICRP-30 dose factors, in which most decommissioning and other licensing actions are based. Although NRC regulations do not require the use of ICRP-30 dosimetry, ICRP-72 allows the determination of age-specific doses to critical groups. However, the licensee's calculations were restricted to adults only. The NRC staff supplemented the licensee's determination of DCGLs by calculating doses for children using ICRP-72. The NRC staff conducted a set of deterministic and probabilistic RESRAD runs comparing dose levels and soil cleanup levels for the three radionuclide series. These calculations differ from those of the licensee in three important respects:

1. Calculations were for all age categories greater than or equal to 1-year, using age-specific dose conversion factors from ICRP-72,

2. Calculations used age-specific usage factors, and

3. Calculations used worst-case inhalation absorption factors from ICRP-72.

There are several reasons which may be cited to support the use of the adult as the average member of the critical group.

1. The concept of an "average member of the critical group" recognizes that there will be a range of individuals in that group, some more affected by radiation and others less affected by radiation. If children are more affected by some of the radionuclides by factors of less than three, it could be argued that they are still members of the critical group, just not the average member.

2. The facility is being used as a laboratory by adults, and no children would be expected to stay in the building or grounds, other than for short visits.

3. Should the facility convert to some other use in the future that would allow significant use by children (e.g., a day care center), it would probably involve renovation, including replacement, painting, sealing or renewal of walls, ceilings, and floors.

4. The dose a person receives in a single year contributes to an overall risk over their lifetime. Risk to a person is proportional to the cumulative dose he or she has received since birth. In the Statement of Consideration for the License Termination Rule, risks were estimated assuming a 30-year lifetime exposure "...from contaminated sites based on the assumption that it is unlikely that an individual will continue to live or work in the same area for more than 30 years," (FR, 1997). Applying this same philosophy of a 30-year accumulation of risk, it is possible to demonstrate the difference in assuming that the exposed person is always an adult, versus assuming age-based doses in each category.

Following are the ratio for the age-based doses in each category as determined by the NRC staff calculations.

Table 1 - Age Related Doses for Soil

Age Category	U series and Progeny (mrem/pCi U)	Ratio to Adult	Th-232, Th-228 and Ra-228, (mrem/pCi Th)	Ratio to Adult	Th-230 and progeny (mrem/pCi Th)	Ratio to Adult
Adult	0.06262	1	3.097	1	4.518	1
15 yr old	0.0787	1.26	3.98	1.29	6.44	1.43
10 yr old	0.0958	1.53	4.02	1.3	6.52	1.44
5 yr old	0.101	1.61	4.02	1.3	6.7	1.43
1 yr old	0.111	1.77	4.02	1.3	6.7	1.48

Table 2 - Age Related Doses for Groundwater Contamination At Uranium Pit

Age Category	Dose mrem/pCi	Ratio to Adult Dose
Adult	0.1839	1
15 yr old	0.2791	1.52
10 yr old	0.219	1.19
5 yr old	0.1942	1.06
1 yr old	0.1258	0.684

Table 3 - Age Related Doses for Indoor Exposures from Contaminated Surfaces as Compared to Results from Standard Dosimetry of RESRAD-BUILD

Age Category	U series and Progeny (mrem/pCi U)	Ratio to Adult	Th-232, Th-228 and Ra-228, (mrem/pCi Th)	Ratio to Adult	Th-230 and progeny (mrem/pCi Th)	Ratio to Adult
Adult	1.71E-4	1	2.25E-3	1	1.55E-3	1
15 yr old	2.17E-4	1.27	2.91E-3	1.29	1.86E-3	1.2
10 yr old	3.5E-4	2.05	3.59E-3	1.6	3.6E-3	2.32
5 yr old	3.92E-4	2.29	3.77E-3	1.68	3.85E-3	2.48
1 yr old	4.15E-4	2.43	3.48E-3	1.55	3.67E-3	2.37

The RESRAD and RESRAD-BUILD results were compared for the adult age group only, using the ICRP-72 dosimetry and the default ICRP-30 dosimetry. Table 4 provides the comparisons between the two dose factors. All runs were deterministic, although probabilistic runs for RESRAD gave similar results. The higher allowed DCGLs calculated by the licensee reflect the lower dose factors of ICRP-72.

Table 4 - Comparison of Doses from ICRP-72 Dosimetry and ICRP-30 Dosimetry for Soils and Surfaces

Radionuclide Group	Ratio ICRP-30 results to ICRP 72 results RESRAD soil	Ratio ICRP-30 results to ICRP-72 results RESRAD-BUILD surfaces
Uranium Series	2.31	2.73
Th-232 Series	1.04	0.97
Th-230 Series	1.2	1.8

The staff agrees with the licensee that the adult is the average member of the critical group for this site, and is generally protective of all age groups likely to use the site. Furthermore, scenarios for which the site occupants would be different than the chosen scenario would be less likely, and therefore, could receive a lower weight than the main scenario when risk is considered.

The licensee proposes to assume that the contaminant is entirely the most restrictive one, Th-232, in their final status survey, unless they encounter values higher than the DCGL. In that circumstance, they will determine the relative contribution from the residual contamination of each radionuclide, combined into a single dose value with the unit rule. The staff considers this approach to be reasonable and concurs in its use. In consideration of all factors discussed above, the NRC staff approved the DCGLs, as shown in Table 5, by License Amendment No. 09.

Table 5 - Licensee's DCGLs for Soil and Surfaces

Radionuclide and Situation	DCGL Value
Uranium-Series	228 pCi U/gram
Th-232 Series - Soil	5.3 pCi Th/gram
Th-230 Series - Soil	3.5 pCi Th/gram
Uranium Series - Indoor Surfaces	177,300 dpm/100 cm^2
Th-232 Series - Indoor Surfaces	12,500 dpm/100 cm^2
Th-230 Series - Indoor Surfaces	16,300 dpm/100 cm^2
Uranium Series - Soil in Test Pit	165 pCi U/gram

6.2 Embedded and Buried Piping DCGLs

The chemical drain system includes the piping system from the laboratories, into the plumbing chase which runs underground, out of the building, through a sedimentation tank and a limestone pit, which emptied into the sanitary sewer. It should be noted that the exposed portions of the piping located within the laboratories were not considered to be embedded and were subject to the building surface release criteria.

The radionuclides of concern at KMTC are those of the uranium and thorium series, as discussed previously in the history of the facility. The Microshield code was used to provide a photon flux resulting from a contaminant concentration at the DCGL for the on-contact configuration in order to predict the NaI count rate using the MCNP code. The licensee benchmarked the MCNP code to predict the sensitivity of the 3" x ½" NaI(Tl) detector for a given input energy and photon flux. Based on the licensee's results, the NRC determined that the MCNP model, as used by the licensee, was an acceptable method for estimating the sensitivity and the efficiency of the 3" x ½" NaI(Tl) detector when direct measurements were not feasible or practical.

The licensee evaluated the dose impacts related to embedded and buried piping through multiple exposure scenarios and different assumptions for the piping source term. The conservative scenario was based on the building renovation scenario. This scenario assumed demolition and removal of all the piping, in which the exposure pathways included external gamma and inhalation of re-suspended materials. The licensee based the DCGLs on ICRP-72 inhalation dose coefficients. The ICRP-72 methodology had been previously approved by the NRC for soil and building surfaces for the facility.

The NRC staff's analysis using RESRAD-BUILD code and realistic scenario assumptions, indicated that the dose related to the proposed embedded piping DCGLs would be a small fraction of the unrestricted use dose criteria specified in 10 CFR 20 Subpart E. The licensee's dose evaluation and assumptions appear to be reasonable and sufficiently conservative. As a result of the NRC staff's evaluation, the DCGLs for the buried and embedded piping as shown in Table 6, were approved by letter dated June 28, 2005.

Table 6 - Licensee's DCGLs for Embedded and Buried Piping

Nuclide	$DCGL_w$ (dpm/100 cm^2) for the parent nuclide
Ra-226 and Progeny (including Th-230)	1,150,000
Th-232 and Progeny	487,000
U-238 and U-234	4,350,000

7.0 ENVIRONMENTAL REVIEW

The NRC staff evaluated the environmental impacts of approving the DP for KMTC, which is located north of Oklahoma City, Oklahoma. The NRC staff prepared an EA with input from the State of Oklahoma Natural Heritage Inventory, by letter dated April 11, 2002, and the U.S. Fish and Wildlife Service, by letter dated May 9, 2002. By letter dated May 2, 2002, after considering the documentation submitted by the licensee concerning the location of the decommissioning project, the Oklahoma Historical Society determined that there were no historic properties affected by the referenced project. In its letter dated April 11, 2002, the Oklahoma Archaeological Survey determined that no sites were listed as occurring in the decommissioning project area, and based on topographic and hydrologic settings, no archaeological materials were likely to be encountered. The NRC staff provided a draft of the EA to the State of Oklahoma for review. The state did not comment on the EA report.

8.0 IMPACTS

The facility consists of approximately 160 acres of land in which the facility buildings are located on approximately 10 acres of land, with the remaining portion of the land area consisting of grass fields or water, and not used for the facility's activities. Short and long-term impacts to human health due to radiological exposure were not expected. These included the potential release to the environment of airborne effluents, which may contain low-levels of radioactive contamination during decommissioning activities such as excavation, packaging and waste transportation. NRC regulation 10 CFR Part 20 specifies the maximum amounts of radioactive materials that a licensee may release from a site in the form of either airborne or liquid effluents. The licensee described the controls established for these activities in their DP. Occupational doses to decommissioning workers were expected to be low and well within the limits of 10 CFR Part 20. No radiation exposure to any member of the public was expected, and public exposure would, therefore, also be less than the applicable public exposure limits of 10 CFR Part 20. In addition, the licensee has a fence around their property which limited access to the facility. Therefore, the environmental impacts from the proposed action were expected to be small.

The site was surveyed and met the NRC criteria for unrestricted use in accordance with 10 CFR Part 20. The environmental impacts resulting from the release of this site for unrestricted use are expected to be insignificant. There were no additional activities that resulted in cumulative impacts to the environment.

9.0 RECOMMENDATIONS

The NRC staff recommends termination of the Kerr McGee Corporation NRC License No. SUB-0986 based on NRC's approval of the FSSR and confirmatory survey verification which documented that the facility meets the radiological criteria for unrestricted use.

10.0 REFERENCES

NRC,"Radiological Criteria for License Termination," 10 CFR Part 20, Subpart E, 62 FR 39088, July 28, 1997.

NRC, "NMSS Decommissioning Standard Review Plan, " NUREG-1727, August 1991.

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Kerr McGee Technical Center, "Response to NRC Supplemental RAI with Regards to Derived Concentration Guidelines," March 6, 2002, (ADAMS Accession No ML020670216)

Kerr McGee Technical Center, "Clarification and Modifications to KMCLLC Technical Center Derived Concentration Guideline Levels and Decommissioning Plan," October 16, 2002, (ADAMS Accession No. ML022940089)

Kerr McGee Technical Center, "Final Status Survey Report Outdoor Survey Units," September 2003, (ADAMS Accession No. ML033020108)

Kerr McGee Technical Center, "Final Status Survey Report Indoor Survey Units," April 2004, (ADAMS Accession No. ML041100784)

Kerr McGee Technical Center, "Indoor Final Status Survey Report," Supplemental, December 2004, (ADAMS Accession No. ML043520247)

Final Safety Evaluation Report for KMTC

cc: (via ADAMS distrib):
LDWert
JEWhitten
DBSpitzberg
RSBrowder
RJEvans
FCDB File
Material Docket Files

SISP Review Completed: RSB ADAMS: ■ Yes □ No Initials: RSB
■ Publicly Available □ Non-Publicly Available □ Sensitive ■ Non-Sensitive

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