

Directions To Kerr-McBee Corp's Technical Center

1. Take Hwy. 77 (North Broadway Extension) North past I-44 exit.
2. Go North to Edmond, Ok. and exit on 150th St. (33rd St. in Edmond) and go under Hwy. 77 going West.
3. Go past May Ave about 1 mile to Kerr-McBee's Tech. Ctr. on Right on 150th St.

JO Johnson RSO
(405) 775-5618

NOTE: All areas indicated in field notes are not required to be addressed during each inspection

Release

INDUSTRIAL/ACADEMIC/RESEARCH INSPECTION FIELD NOTES

Region IL

Inspection Report No. 95-01

License No. SUD 986
35-12636-06

Licensee (Name & Address):
KERR-McGEE CORPORATION
KERR-McGEE CENTER - 606
OKL OK 73125

Docket No. 040-08006
030-08401

Licensee Contact JO JOHNSON

Telephone No. 405 775-5618

Last Arentment No. 06

Date of Arentment 1/10/94

Priority: 113000
Program Code 03611

Date of Last Inspection 1/12/93
Date of This Inspection 11/27/95

Type of Inspection: () Announced (X) Unannounced
(X) Routine () Special
() Initial () Reinspection

Next Inspection Date 11/99 (X) Normal () Reduced () Extended

Summary of Findings and Action:

- (X) No violations cited, Clear 591 issued
- () Violation(s), 591 issued
- () Violation(s), Regional letter issued
- () Followup on Previous Violations

Were non-cited violations identified during this inspection? () Y (X) N

Was proprietary information reviewed by or received by the inspector? () Y (X) N

Inspector: [Signature]
(Signature)

Date 11/27/95
[Signature]

Approved: [Signature]
(Signature)

Date 12/7/95

1. INSPECTION HISTORY

() N/A - Initial inspection

- A. Violations were identified during any of the last two inspections or two years, whichever is longer Y () N
- B. Response letter(s) or 591(s) dated _____
- C. Open violations from previous inspections:

| Requirement | Violation | | Corrective Action Taken (Y/N) | Status |
|-------------|------------------|-----------------------|-------------------------------|-------------|
| | PERSON SPECIFIED | OTHER THAN DESIGNATED | | Open/Closed |
| LC 12 | AS RSO | | / | C |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

- D. Explain any previous violation(s) not corrected or repeated N/A

2. ORGANIZATION AND SCOPE OF PROGRAM

- A. Organizational Structure
 - + ~~J.B. WORTHINGTON~~ - V.P. R & D
 - ↓
 - + E.J. JOHNSON SAFETY DIRECTOR/RSD

+ Individuals contacted during inspection
 * Individuals present at exit meeting

- 1. Meets license requirements [L/C] Y () N
- 2. Multiple authorized locations of use and/or laboratories Y () N
 If yes, may use ATTACHMENT A as a guide for location(s) or lab(s) inspected and note lab numbers where violations are found. () N/A
- 3. Briefly describe scope of activities, including types and quantities of use involving byproduct material, frequency of use, staff size, etc.

SUD-986
 2 Test Pits with
 ≈ 146 Kg of Uranium
 (natural)

Mimimal activities: Ni 63 sealed sources in G.C.'s
 4 sealed source Ni 63 ; check sources held
 AM 241 in Storage (unit mCi)
 FE-55 Gauges Transferred
 Cm 244

Program Continuing to Downsize

- B. Radiation Safety Committee required [L/C] () Y N
- 1. RSC fulfills license requirements [L/C] N/A () Y () N
- 2. Records maintained [L/C] N/A () Y () N

C. Radiation Safety Officer

- 1. Authorized on license [L/C]
- 2. Fulfills duties as RSO

Y () N
 Y () N

D. Use by authorized individuals [L/C]

Y () N

Remarks:

3. TRAINING, RETRAINING, AND INSTRUCTIONS TO WORKERS

- A. Instructions to workers/students per [10 CFR 19.12]
- B. Training program required [L/C]

Y () N
 Y () N

1. If so, briefly describe training program:

*every two years last training 8/5/94
 by Phil DeFogly of Yankee atomic: 13 trainees*

- 2. Training program implemented
- 3. Periodic training program required
- 4. Periodic training program implemented
- 5. Records maintained

Y () N
 Y () N
 Y () N
 Y () N

C. Individuals understanding of procedures and Regulations is adequate

Y () N

- 1. Current operating procedures
- 2. Emergency procedures
- 3. Use of survey instrumentation

Y () N
 Y () N
 Y () N

D. Revised Part 20

Workers cognizant of requirements for:

Part of Bi-annual Training Program

- 1. Radiation Safety Program [20.1101]
- 2. Annual dose limits [20.1301, 1302]
- 3. New forms 4 and 5
- 4. 10% monitoring threshold [20.1502]
- 5. Dose limits to embryo/fetus and declared pregnant worker [20.1208]
- 6. Grave Danger Posting [20.1902]
- 7. Procedures for opening packages [20.1906]
- 8. Sewer disposal limits [20.2003]

Y () N
 Y () N
 () N/A Y () N
 Y () N
 Y () N
 N/A () Y () N
 N/A Y () N

No receipts in past 2 years

NOTE:

Deficiencies in this area, while not always a violation, should be brought to the attention of licensee management at the exit meeting and in the cover letter transmitting the inspection report or NOV.

Remarks:

*Last sewer six liters of 500 pti/l
 mixed gamma liquids (5/94)*

4. INTERNAL AUDITS, REVIEWS OR INSPECTIONS

- A. Audits are required [L/C] () Y (X) N
 B. Audits or inspections are conducted (X) Y () N
 (1) Audits conducted by Concrete office & RSD *Review findings*
 (2) Frequency Annually
 C. Content and implementation of the radiation protection program reviewed annually by the licensee [20.1101(c)] (X) Y () N
 D. Records maintained [20.2102] (X) Y () N

5. FACILITIES

- A. Facilities as described in license application [L/C] (X) Y () N
 B. Describe any Self-contained dry-source-storage irradiators [Part 36] and/or survey instrument calibrators (model, radionuclide, activity, use, etc.) (X) N/A
instrument sent calibrated by Ken Meber - Cimmaron

manufacturers

1. Maintenance of safety-related components performed by authorized persons [L/C] (X) Y () N
 2. Access to keys and/or material controlled [20.1801, 1802, L/C] *comb safe* (X) Y () N
 3. Access to high/very high radiation areas controlled [20.1601, 1602, L/C] *N/A* () Y () N
 4. Adequate protection of shield integrity, fire protection [L/C] (X) Y () N

Remarks: *Audits conducted 1/94 & 6/95*

6. MATERIALS

- Records Reviewed 7/93 to present*
 A. Isotope, chemical form, quantity and use as authorized [L/C] (X) Y () N
 B. Licensed materials secured to prevent unauthorized removal or access [20.1801, 1802] (X) Y () N
 C. Leak tests and Inventories [L/C]
 1. Performed as required () N/A (X) Y () N
 2. Adequate analysis methodology and sensitivity () N/A (X) Y () N
 3. Records maintained [L/C] (X) Y () N

Remarks: *Amenham performs leak tests since 93 every 6 months*

7. RADIATION SURVEYS

A. Instruments and equipment:

- 1. Appropriate operable survey instrumentation possessed and readily accessible [L/C] Y () N
- 2. Calibrated as required [20.1501, L/C] Y () N
- 3. Calibration records maintained [20.2103(a)] Y () N

B. Briefly ^{Reviewed 93 - present} describe area survey requirements [20.1501(a), L/C]:

Survey every 2 months in all areas of use & storage

C. Performed as required [20.1501(a), L/C] Y () N

- 1. Contamination found () Y N
- 2. Corrective action taken and documented *N/A* () Y () N

D. Records maintained [20.2103, L/C] Y () N

E. Protection of members of the public

- 1. Licensee made adequate surveys to demonstrate either (1) that the TEDE to the individual likely to receive the highest dose does not exceed 100 mrem in a year, or (2) that if an individual were continuously present in an unrestricted area, the external dose would not exceed 2 mrem in any hour and 50 mrem in a year [20.1301(a)(1), 1302(b)] Y () N
- 2. Unrestricted area radiation levels do not exceed 2 mrem in any one hour [20.1301(a)(2)] Y () N
- 3. Records maintained [20.2103, 2107] Y () N

Remarks:

8. RADIOACTIVE WASTE () N/A

A. Disposal () N/A

1. Decay-in-storage N/A

- a. Procedures approved [20.2001(a)(2), L/C] () Y () N
- b. In accordance with [L/C] () Y () N
- c. Labels removed or defaced [20.1904(b)] () Y () N

2. Special procedures performed as required [L/C] *N/A* () Y () N

3. Liquid scintillation (LS) media and animal carcasses per [20.2005] N/A () Y () N

4. Improper/unauthorized disposals [20.2001] () Y N

5. Records maintained [20.2103(a), 2108, L/C] Y () N

B. Effluents

() N/A

- 1. Release into sanitary sewer [20.2003] () N/A Y () N
 - a. Material is readily soluble or readily dispersible [20.2003(a)(1)] Y () N
 - b. Monthly average release concentrations do not exceed Appendix B values [20.2003] Y () N
 - c. No more than 5 Ci of H-3, 1 Ci of C-14 and 1 Ci of all other radionuclides combined released in a year [20.2003] Y () N
 - d. Procedures to ensure representative sampling and analysis properly implemented [20.1501(a)(2), L/C] Y () N

- 2. Release to septic tanks [20.2003] N/A () Y () N
 - a. Within unrestricted limits [App B, Table 2] () Y () N

- 3. Waste incinerated N/A () Y () N
 - a. License authorizes [20.2004(a)(3)] () Y () N
 - b. Licensee directly monitors exhaust () Y () N
 - c. Airborne releases evaluated and controlled [20.1501, 1701] () Y () N

- 4. Control of effluents and ashes [20.1201, 1301, 1501, 2001, L/C] {See also IP 87102, FG 8.37} Y () N

a. Compliance with air emissions requirements in Part 20:

Licensee has demonstrated compliance with air emission requirements in 10 CFR Part 20 Y () N

Basis for compliance determination (circle one or more; provide basis below)

- ___ (1) Measured concentrations of radionuclides in air effluents are below Appendix B, Table 2 concentrations (and external dose < 50 mrem/yr)
- ___ (2) Bounding calculations show that air effluents could not exceed Appendix B, Table 2 concentrations (and external dose < 50 mrem/yr)
- ___ (3) Dose modeling shows that dose equivalent to the individual likely to receive the highest dose does not exceed 10 mrem/yr
- (4) Licensee does not possess sufficient radioactive material to exceed Part 20 requirements

Basis for Determination: No possession of gases or volatile fluids

- b. Description of effluent monitoring program *N/A*
1. Monitoring system hardware equipment adequate () Y () N
 2. Equipment calibrated as appropriate () Y () N
 3. Air samples/sampling technique (charcoal, HEPA, etc.) analyzed with appropriate equipment () Y () N

Remarks:

*Calculations & monitoring
No possession of cores or volatile fluids*

C. Waste Management *N/A*

1. Waste compacted [L/C] *N/A* () Y () N
2. Storage area(s) *N/A* () N/A
 - a. Protection from elements and fire [L/C] () Y () N
 - b. Control of waste maintained [20.1801] () Y () N
 - c. Containers properly labeled and area properly posted [20.1902, 1904] () Y () N
 - d. Package integrity maintained [L/C] () Y () N

3. Packaging, Control and Tracking [App. F.111] [20.2006(d)]:

Note: The licensee's waste is likely to be Class A.

- a. Not packaged for disposal in cardboard or fiberboard boxes [61.56(a)] (X) Y () N
- b. Liquid wastes solidified, i.e., less than 1% freestanding liquid, and void spaces minimized [61.56(a), (b)] (X) Y () N
- c. Does not generate harmful vapors [61.56] () Y (X) N
- d. Structurally stable (will maintain its physical dimensions and form under expected disposal conditions) [61.56(b)] (X) Y () N
- e. Packages properly labeled [App. F.111.A.2] (X) Y () N
- f. Licensee conducts a QC program to ensure compliance with [61.55, 56] and includes management evaluation of audits [App. F.111.A.3] (X) Y () N
- g. Shipments not acknowledged within 20 days after transfer are investigated and reported [App. F.111.A.8] (X) N/A () Y () N

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4. Transfers to land disposal facilities () N/A

- a. Transferred to person specifically licensed to receive waste [30.41, 20.2001(b)] (X) Y () N
- b. Each shipment accompanied by a manifest prepared as specified in Section I of Appendix F [20.2006(b), App. F.111.A.4] (X) Y () N
- c. Manifests certified as specified in Section II of Appendix F [20.2006(c)] (X) Y () N

D. Records or surveys and material accountability are maintained [20.2103, 2108]

Y N

Remarks:

9. RECEIPT AND TRANSFER OF RADIOACTIVE MATERIAL

A. Describe how packages are received and by whom:

N/A

No receipts since last insp

B. Written package opening procedures established and followed [20.1906(e)]

N/A Y N

C. All incoming packages with DOT labels wiped, unless exempted (gases and special form) [20.1906(b)(1)]

N/A Y N

D. Incoming packages surveyed per [20.1906(b)(2)]

N/A Y N

E. Monitoring in (C) and (D) above, performed within time specified [20.1906(c)]

N/A Y N

F. Transfer(s) between licensees performed per [30.41]

Y N

G. All sources surveyed before shipment and transfer [20.1501(a), 49 CFR 173.475(i), L/C]

Y N

H. Records of surveys and receipt/transfer maintained [20.2103(a), 30.51]

Y N

I. Transfers within licensee's authorized users or locations performed as required [L/C]

N/A Y N

J. Arrangements made for packages containing quantities of radioactive material in excess of Type A quantity [20.1906(a)]

Y N

K. Package receipt/distribution activities evaluated for compliance with 20.1301 [20.1302]

N/A Y N

Remarks:

10. TRANSPORTATION (10 CFR 71.5(a) and 49 CFR 170-189)

N/A

A. Licensee shipments are:

- delivered to common carriers
- transported in licensee's own private vehicle
- both
- no shipments since last inspection

Tri State Motor Transit

*Transferred
Gauges to
WM KELLOGG &
fixed
Sources to
Manufacturers*

- B. HAZMAT training [172.700-704] Y () N
 C. Packages () N/A
1. Authorized packages used [173.415, 416(b)] Y () N
 2. Performance Test records on file () N/A
 - a. Special Form Sources [173.476(a)] *N/A* () Y () N
 - b. DOT-7A packages [173.415(a)] Y () N
 3. CCCs on file with NRC for Type B [71.12(c)(1)] *N/A* () Y () N
 4. Two labels (White-I, Yellow-II, Yellow-III) with TI, Nuclide, Activity, and Hazard Class [172.403, 173.441] Y () N
 5. Properly marked (Shipping Name, UN Number, Package Type, RQ, "This End Up" (liquids), Name and Address of consignee) [172.301, 306, 310, 312, 324] Y () N
 6. Closed and sealed during transport [173.475(f)] Y () N
- D. Shipping Papers () N/A
1. Prepared and used [172.200(a)] Y () N
 2. Proper {Shipping name, Hazard Class, UN Number, Quantity, Package Type, Nuclide, RQ, Radioactive Material, Physical and chemical form, Activity, Category of label, TI, Shipper's Name, Certification and Signature, Emergency Response Phone Number, "Limited Quantity" (if applicable), "Cargo Aircraft Only" (if applicable)} [172.200-204] Y () N
 3. Readily accessible during transport [177.718(e)] Y () N
- E. Vehicles () N/A
1. Placarded [172.504] *N/A* () Y () N
 2. Cargo blocked and braced [177.842(d)] Y () N
 3. Proper overpacks (shipping name, UN Number, labeled, statement indicating that inner package complies with specification packaging) [173.25] Y () N
- F. Any incidents reported to DOT [171.15, 16] () Y N

Remarks:

No INCIDENTS

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11. PERSONNEL RADIATION PROTECTION

- A. Licensee performed exposure evaluation [20.1501] Y () N
 B. Licensee incorporated ALARA considerations in the Radiation Protection Program [20.1101(b)] Y () N

- C. External Dosimetry () N/A
1. Licensee monitors workers [20.1502(a), L/C] Y () N
 2. External exposures account for contributions from airborne activity [20.1203] N/A () Y () N
 3. Supplier LANDAVER Frequency monthly
 4. Supplier is NMAP-approved [20.1501(c)] Y () N
 5. Dosimeters exchanged at required frequency [L/C] Y () N
- D. Internal Dosimetry N/A
1. Licensee monitors workers [20.1502(b), L/C] () Y () N
 2. Briefly describe licensee's program for monitoring and controlling internal exposures [20.1701, 1702, L/C]:
 3. Air sampling performed () Y () N
 4. Monitoring/controlling program implemented () Y () N
 5. Respiratory protection equipment [20.1703, L/C] () Y () N
- E. Reports () N/A
1. Reviewed by RSD Frequency monthly
 2. Inspector reviewed personnel monitoring records for period 1/93 to 10/31/95
 3. Prior dose determined for individuals likely to receive doses [20.2104] 330/year Y () N
 4. Maximum exposures ~~TEDE~~ TEDE Other _____
 5. Maximum ODEs _____ Organs _____
 6. Maximum CEDE _____
 7. Licensee sums internal and external [20.1202] N/A () Y () N
 8. TEDEs and TODEs within limits [20.1201] () Y () N
 9. NRC Forms or equivalent [20.2104(d), 2106(c)]
 - a. NRC-4 Y () N Complete: Y () N
 - b. NRC-5 Y () N Complete: Y () N
 10. Worker declared her pregnancy in writing during inspection period (review records) N/A () Y () N
 If yes, licensee in compliance with [20.1208] () Y () N
 and records maintained [20.2106(e)] () Y () N
NO Declarations
- F. Who performed PSEs at this facility (number of people involved and doses received) [20.1206, 2104, 2105, 2204] N/A
- G. Records of exposures, surveys, monitoring, and evaluations maintained [20.2102, 2103, 2106, L/C] Y () N

Remarks:

12. NRC INDEPENDENT MEASUREMENTS

A. Survey instrument Serial No. Last calibration
Eberline RO-20 *1497* *6/3/95*

B. Inspector's measurements were compared to licensee's Y () N
 C. Describe the type, location, and results of measurements:

*Rod levels measured at storage area
 background is .02 mR/hr
 all measurements at or below background*

13. NOTIFICATION AND REPORTS

() N/A

- A. Licensee in compliance with [19.13, 30.50] (reports to individuals, public and occupational, monitored to show compliance with Part 20) N/A Y () N
 B. Licensee in compliance with [20.2201, 30.50] (theft or loss) None () Y () N
 C. Licensee in compliance with [20.2202, 30.50] (incidents) None () Y () N
 D. Licensee in compliance with [20.2203, 30.50] (overexposures and high radiation levels) None () Y () N
 E. Licensee aware of NRC Ops Center phone number () Y () N

14. POSTING AND LABELING

- A. NRC-3 "Notice to Workers" is posted [19.11] Y () N
 B. Parts 19, 20, 21, Section 206 of Energy Reorganization Act, procedures adopted pursuant to Part 21, and license documents are posted or a notice indicating where documents can be examined is posted [19.11, 21.6] Y () N
 C. Other posting and labeling per [20.1902, 1904] and the licensee is not exempted by [20.1903, 1905] () Y () N

Remarks:

15. RECORDKEEPING FOR DECOMMISSIONING

() N/A

- A. Records of information important to the safe and effective decommissioning of the facility maintained in an independent and identifiable location until license termination [30.35(g)] Y () N
 B. Records include all information outlined in [30.35(g)] Y () N

Remarks:

16. BULLETINS AND INFORMATION NOTICES

- A. Bulletins, Information Notices, NMSS Newsletters, etc., received by the Licensee
- B. Licensee took appropriate action in response to Bulletins, Generic Letters, etc.

Y () N
 Y () N

Remarks:

No Action necessary

17. SPECIAL LICENSE CONDITIONS OR ISSUES

N/A

- A. Special license conditions or issues to be reviewed:
- B. Evaluation:

18. CONTINUATION OF REPORT ITEMS

N/A

19. VIOLATIONS, NCVs, AND OTHER ISSUES

N/A

Note: Briefly state (1) the requirement and (2) how and when the licensee violated the requirement. For non-cited violations, indicate why the violation was not cited.

20. DEBRIEF WITH LICENSING STAFF

Inspection findings discussed with licensing staff. () N/A () Y N
 Items discussed:

21. EPA REFERRAL FORM

EPA referral form for air effluents sent to appropriate EPA regional office per IP 87102

() Y N

no effluents (no spec or volatile requests)

22. PERFORMANCE EVALUATION FACTORS

Licensee (name & location)

KERR M. LEE
KERR M. LEE CENTER 606
OKC OK 73125

Inspector

[Signature]

Inspection Date

11/27/95

- A. Lack of senior management involvement with the radiation safety program and/or Radiation Safety Officer (RSO) oversight () Y (X) N
- B. RSO too busy with other assignments () Y (X) N
- C. Insufficient staffing () Y (X) N
- D. Radiation Safety Committee fails to meet or functions inadequately () N/A () Y (X) N
- E. Inadequate consulting services or inadequate audits () N/A () Y (X) N

Remarks (consider above assessment and/or other pertinent PEFs):

Regional follow-up on above PEFs citations:

Program continuing to downsize, RSO has adequate authority and ^{END} maintains a solid program. However licensee considered laying off RSO without plans for neither replacement nor NRC Notification/Amendment.

KERR-McGEE CHEMICAL CORPORATION

ORGANIZATION CHART

Technical Center Employees

