November 22, 1974

Harold D. Thornburg, Chief, Field Support and Enforcement Branch Directorate of Regulatory Operations, Meadquarters

KERR-MCGEE MUCLEAR CORPORATION (CDMANEON FACILITY) DOCEET NO. 70-925 AND 10. 70-1193 INSPECTION VIOLATION HISTORY

In response to a telephone request on Boverber 21, 1974, by Sam Bryan, the attachment represents a chronology of violation history resulting from criticality, health physics, material control, and physical security inspections of Kerr-HeGee's uranium and plutonium facilities.

The Kerr-HcGoe physical security plan has been effectively implemented. Initial inspection of the new plen in May, 1974 identified several violations, but a subsequent followup inspection in September, 1974 indicated responsive corrective action. In general, Korr-leGeo has been responsive to correcting violations associated with material control requirements. On occasion, the Kerr-McGea implementation of the new, changing material control requirements, particularly the ones pertaining to the statistical and measurement programs, have been less timely. During recent months, Korr-McGee's major portion of safeguards effort in this area has been directed to the Pu facility as compared to the low enriched uranium facility.

There have been numerous criticality safety violations in the past two years, indicative of a lack of effective management control. There has been an improvement in this area in the past year, but the insttention of Kerr-McGoe management to some license commitments and these violations have reduced to some degree the safety factor of the criticality safety program.

Kerr-McGee has, in general, been responsive to correcting items of noncompliance identified as a result of routine and special bealth physics inspections. The Plutonium and Uranium Plant health physics staffs have been found to be capable and staffed with qualified supervisory personnel. Corporate management safety personnel on occasions have been slow in responding to natters needing prompt ottention. A neeting with Kerr-Hocee corporate nanagement was held

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Form AEC-318 (Rev. 9-53) AECM 0240

on November 2, 1973, by the Regional Director and staff to discuss this and other matters of concern. A recent example of slow response occurred when the medical consultant did not arrive in Oklahoma City until November 9, two days after Karen Silkwood's fecal and urine samples were found to be highly contaminated. Plant health physics procedures, equipment, and facilities have been found to be satisfactory.

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Jack A. Hind, Chief Materials and Plant Protection Branch

Attachment:

As stated

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cc: Sam Bryan, RO:RQ

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Material Control and Physical Protection (Pu)

Dates of Inspection: 1/17-21/72
Report No.: SO-II-87 (Material Control and Security - Pu and U Plants)
Description of Violations:

1. No independent internal review. (U and Pu) (L.C.8.1).

2. LE's not included on shipping documents (U and Pu) (70.54).

3. Receipt forms not completed and distributed within required time (U and Pu) (70.54).

4. Enriched U (greater than 20% U-235) not in separate fenced

area outside (U) (73.32(c)).

5. Security test of equipment records not maintained (U and Pu) (73.41(b)).

Dates of Inspection: 1/14-16/73
Report No.: 070-1193/73-01 (Physical Protection)
Violations:

1. Permanent structure within 20 ft. of inside of fence (L.C.9.4.1).

2. Perimeter fence not inspected during work hours (L.C.9.4.3).

3. Pu storage vault not protected by steel door or intrusion alarm (L.C.9.4.5 and 73.3(k)).

4. Intrusion alarms not being tested as required (L.C.9.4.8).

Dates of Inspection: 2/21-23 and 3/12-16/73 Report No.: 070-1193/73-03 (Material Control) Violations:

Measurement review not complete (L.C.3.4).

Not closed a 30-day material balance (L.C.6.5).

3. MBA and plant records not reconciled (L.C.7.1).

4. Not in full compliance with independent audit requirements (L.C.8.1).

Dates of Inspection: 12/3-7/73
Report No.: 070-1193/73-08 (Material Control)
Violations:

LEMUF for five material balance periods exceed specification of 1.5 Kgs. Pu (L.C.3.2).

Dates of Inspection: 2/26-37/74

Report No.: 070-1193/74-03 (Material Control)

Violations: None

Material Control and Physical Protection (Fu)

Dates of Inspection: 3/11-13/74

Report No.: 070-1193/74-02 (Physical Protection)

Violations:

Combination lock on vault broken (73.3(j) and 73.3(e)).

2. Visitors log information not complete (L.C.9.3.7 and 9.3.8).

Program Weakness:

Spurfous Pu monitor alarms at dock area.

Dates of Inspection: 5/6-9/74

Report No.: 070-1193/74-04 (Physical Protection)

Violations:

1. Failed to relocate TV camera at dock area (73.60(a)(7)).

 Not conducting communications check with LLEA; should be each shift rather than daily (Plan 10.4).

3. Levels of illumination not as required on all sections of physical barrier (Plan 2.1.2.2).

4. Sample window not alarmed (L.C.9.3.2).

5. Metal detector for exit search not installed (L.C.9.3.4).

6. Installation of motion detector in vault not complete (L.C.9.3.5).

7. Protective personnel were not armed or uniformed (73.50(a)(1)).

8. Door between (exhaust air fan room and supply air fan room) not alarmed (L.C.9.5).

9. All required portals not installed with magnetic switch intrusion alarms rather than plunger types (L.C.9.7).

10. Secondary alarm annunciator not installed or operable at

Uranium Post No. 2 (L.C.9.18.1).

1. Metal detector at entrance search installed but not operable and electric door lock not installed (L.C.9.16.1 and 9.16.2 and 9.18.2).

12. Intrusion alarms not installed in storage areas in fabrication area and in the (inspection) and assembly area (L.C.9.17.2).

13. Only one armed guard assigned to each shift rather than the required two and an armed shift supervisor (L.C.9.18.3).

14. All existing intrusion alarms did not meet Federal specifications (L.C.9.18.4).

15. Log of individuals granted access to a normally unoccupied vital areas not being maintained (73.70(d)).

Dates of Inspection: 7/23-25/74

Report No.: 070-1193/74-06 (Material Control)

Violations:

On three occasions when delayed measurements were made, the 741 was not completed within 30-day period (70.54).

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Material Control and Physical Protection (Pu)

Dates of Inspection: 8/21-23/74

Report No.: 070-1193/74-07 (Material Control)

Violations:

 Accounting data for biases which exceed 10% of their standard deviations (L.C.3.5).

2. Tamper-safing seals not being used (L.C.6.3).

3. All SNM on inventory not based on measurements (L.C.6.4.2).

 Frequency of measurement of standards not being adhered to (L.C.3.3.2).

Date of Inspection: 9/11/74

Report No.: 070-1193/74-08 (Physical Security)

Violations:

1. Explosive detector not completely operable because of spurious alarms due to other types of material, i.e., perfume, smoke (73.50(f)(1)).

2. Of the 12 intrusion alarms to be converted from plunger type to magnetic switch types, all had been converted except one (L.e.9.7).

Material Control and Physical Protection (U)

Dates of Inspection: 4/21-23 and 4/28-5/2/69

Report No.: SO-II-18 (Material Control)

Violations: None

Dates of Inspection: 1/7-15/70

Report No.: SO-II-33 (Material Control)

Violations:

LE's on measurement system and on receipts, shipments, discards and MUF have not been established (FMX 3.0 and subparts).

Dates of Inspection: 10/5-9/70 Report No.: SO-II-56 (Material Control and Physical Protection) Violations:

No manual continuing current procedures (L.C.1.2).

No LE program on measurement system and on receipts, shipments, 2. discards and MUF (L.C.3.0).

Not accounted for all internal transfer documents nor documented all internal transfers (L.C.5.2).

Stored material outside in an area not separately fenced (73.32(c

No records designating authorized individuals (73.41(a)).

Material Control and Physical Protection (U)

Dates of Inspection: 1/16-18/73

Report No.: 070-925/73-01 (Physical Protection)

Violations: None

Dates of Inspection: 2/21-23 and 3/12-16/73 Report No.: 070-925/73-03 (Material Control) Violations:

No independent percent element measurement of UF-6 receipts 1. (L.C.3.1).

Measurement review not complete (L.C.3.3). 2.

Not all 741's on receipts being dispatched on time (70.54). 3.

Dates of Inspection: 11/13-16/73 Report No.: 070-925/73-07 (Material Control) Violations:

No independent percent element measurement of UF-6 receipts (L.C.3.1).

Not all 741's on receipts dispatched on time (70.54).

Dates of Inspection: 11/25-27/74 Report No.: 070-925/74-02 (material Control) Violations:

No material control plan submitted to Licensing (70.51(g)).

Measurement review not complete (L.C.3.3). 2.

Dates of Inspection: 9/22-26/74 Report No.: 070-925/74-04 (Material Control) Violations:

> Standards data not being accumulated (L.C.3.2.3). 1.

Frequency of replicate sampling of process materials not 2. complete (L.C.3.2.2).

All biases not being determined (L.C.3.3) ..

Material accounting data not adjusted for biases (L.C.3.4).

LE's do not include systematic errors (L.C.3.8). 5.

Dates of

Inspection	Report No.	Description of Violations		
12/14-15/65	Memo, 12/21/65	Pre-License, no violations.		
5/10-12/66	Memo, 5/19/66	No violations.		
9/13-14/66	Ltr, 9/30/66 to K-M	1. Ref: 10 CFR 20.201(b). Inadequate surveys to determine compliance with 10 CFR 20.106(a), "Concentrations in effluents to unrestricted areas."		
		2. Ref: 10 CFR 20.201(b). Evaluations of concentrations of licensed materia in restricted areas are inadequate to show compliance with 10 CFR 20.103(a "Exposure of individuals to concentrate of radioactive material in restricted areas."		
2/1-2/67	Memo, 2/10/67	No violations.		
7/5-6/67	Memo, 6/11/67	No violations.		
11/2-3/67	Memo, 11/30/67	No violations.		
2/6-8/68	Ltr, 2/19/68 to K-M	 Ref: License Condition No. 12. Fai to require employees handling materi to shower at the end of a work shift 		
		2. Ref: License Condition No. 12. Smoking in the plant is not restrict to approved areas, nor, are approved areas delineated.		
5/22-23/68	Memo, 6/5/68	No violations.		
9/4-5/68	Ltr, 11/6/68 to K-M	Ref: License Condition No. 8. Sixteen eleven-liter bottles containing solutions of enriched uranium stored in a free stan		

condition in a scrap recovery area aisle.

Dates of Inspection	Report No.
1/22-23/69	Memo, 2/7/
5/13-14/69	Ltr, 6/24/ to K-M
9/9-11/69	Ltr, 9/25/ to K-M
12/2-4/69	Ltr. 2/13

Description of Violations

No violations.

- Ref: 10 CFR 20.201(b). Inadequate evaluation of liquid effluents released to an .unrestricted area.
- Ref: 10 CFR 20.201(b). No surveys of . 2. contaminated laundry area to determine if individuals were exposed to airborne radioactive material.

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No violations.

Ref: 10 CFR 20.201(b). Inadequate surveys to evaluate concentrations of radioactive material released in liquid effluents to the Cimarron River.

- Ref: 10 CFR 20.201(b). Inadequate surveys to determine the presence and extent of radioactive contamination on surfaces throughout the production areas.
- Ref: 10 CFR 20.201(b). No surveys of airborne concentrations of radioact material to which employees were expos while working in the solvent extractic building. Also, radioactive material released from that building.
- Ref: 10 CFR 20.201(b). No surveys of 3. airborne concentrations of radioactive material to which employees were exposed during and subsequent to blender cleanout operations.
 - Ref: License Condition No. 8. Eight 11 liter 5 inch diameter bottles containing solutions of (932) enriched uranium were stored in a free standin condition.

Ltr, 4/9/70 3/19-20/70 to K-M

Inspection	Report No.	Description of Violations
		5. Ref: License Condition No. 8. Nuclear safety aspects relative to the handling and storage of SNM were not evaluated.
		6. Ref: License Amendment No. 18. Respirators were not satisfactorily fitted on personnel nor always surveye prior to re-use to assure decontaminat
5/15/70	Ltr, 6/29/70 to K-M	No violations.
9/29-10/2/70	Ltr, 10/19/70 to K-M	Ref: License Condition No. 8. Practice criticality evaluations were not performed at 90-day intervals.
1/19-21/71	Ltr, 2/8/71 to K-M	No violations.
4/21-23/71	Memo, 5/10/71	No violations.
10/18-20/71	070-925/71-03	No violations.
2/14-18/72	070-925/72-01	No violations.
6/12-13/72	070-925/72-02	No violations.
2/12-16/73	070-925/73-03	No violations.
6/18-22/73	070-925/73-04	1. Ref: License SNM-928, Amendment 23. Several UF-6 tylinders containing heel of UF-6 were stored in the cylinder storage area without valve protectors.
		2. Ref: License SNM-928, Para. III.B.3.c

Dates of

Three 10-gallon containers of U0powder were stored within 12 feet of the blender powder concrete donut storage array which has less than eigh inches of concrete around the periphy of the array. Also, a bucket containi uranium floor washings was stored

Description of Violations

against the blended fowder concrete

- 3. Ref: License SNM-928, License Appl.

 KMG-SNM-1, I.6 Conformance to License
 A loaded 10-gallon container of U0-2

 powder was stored in a non-designated

 torage area. Also, several pellet
 boats in the storage rack exceeded th
 safe slab configuration.
- 4. Ref: License SNM-928, License Appl. KMG-SNM-1, Para III.A.b.3. Packages of wastes, greater than 90 weight per 235-u, stored in the high enriched ar was not marked as to the quantity of 235-u present. Net weight in the packages exceeded 350 gram.

9/17-21 & 26/73	070-925/73-05	No violations.
10/19, 25,26 and 11/2/73	070-925/73-06	No violations.
2/11-15/74	070-925/74-01	No violations.
5/20-24/74	070-925/74-03	No violations.

CRITICALITY AND HEALTH PHYSICS PLUTONIUM INSPECTION AT KERR-McGEE

Date of Inspections	Report or Applicable No.	Descriptions of Violation		
5/13-14/70	Memo Report dated 6/12/70 (Compliance)	No violations.		
8/3-(/70	Memo Report dated 8/24/70 (Compliance)	Form AEC-592-(Two violations): 1.' License Condition #24-Drums of pu waste stored in semi- trailer outside.		
		2. License Condition #25-Bottles of low level pu nitrate solutions not continuously vented.		
12/8-10/70	Memo Report dated 12/29/70 (Compliance)	Form AEC-592 (Three violations): 1. Drums of pu waste stored in semi-trailer outside. Contrary to License Condition #24.		
		 Bottles of low level pu nitrate solutions not continuously vented. Contrary to License Condition #25. 		
		3. Inventory of natural or depleted uranium in excess of authorized limit. Contrary to License Item #7.C.		
		License Amendment No. 4 issued 12/11/7 corrected these apparent deficiencies.		
4/19-21/71	Memo Report dated 5/5/71 (Compliance)	No violations.		
10/21-22/71	Memo Report #070-1193 /71-02 dated 11/15/71	No violations.		
2/17-18/72	Memo Report #070-1193/ 72-01 dated 3/3/72	No violations.		
6/14-16/72	Memo Report #070-1193/ 72-02 dated 7/17/72	No violations.		
10/1920/72	Rpt Ltr dated 11/10/72 Rpt Nos. 070-925/72-03 and 070-1193/72-03	No violations.		

CRITICALITY AND HEALTH PHYSICS PLUTONIUM INSPECTION AT KERR-MCGEE (Continued)

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Report or Applicable No.

· Rpt Letter dated 3/26/73, Rpt Nos. 070-925/73-02 & 1:070-1193/73-02

Descriptions of Violation

Two violations-plutonium facility:

1. Nuclear Criticality Safety Off and Licensing and Regulation O did not audit monthly for compliance with license requireme and Nuclear Criticality Safety Contrary to SNM-1174 Appendix

Glove Box 23 in pu waste recov not posted with hood inventory record. Contrary to SNM-1174, Appendix A.

28, 29/73

ions

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Rpt letter dated 5/21/73 Rpt No. 070-1193/73-04

No items of noncompliance, but items requiring immediate attentio

 Delay in collecting bioassay samples and additional delay between time samples submitted and analytical results receive

2. Medical consultant not notifie until day following the occurr

(fire).

Prior to the fire, procedures not require respiratory protec during bag-out operations. Th precaution would have reduced intake of radioactive material personnel involved.

Room Air Monitor Chart allowed run out the day before the fin Information to help evaluate concentrations of radioactivi: room air at time of fire was 1

available.

6/18-22/73

Rpt Letter dated 8/17/73, Rpt No. 070-1193/73-05

Two violations-plutonium facility SNM-1174:

1. Glove Box 1A, Waste Processin Area, had no "Glove Box Statu Sheet" indicating fissile con Contrary to Appendix A of Lic SNM-1174.

CRITICALITY AND HEALTH PHYSICS PLUTONIUM INSPECTION AT KERR-McGEE (Continued)

Date of Inspections Report or Applicable No.

Descriptions of Violation

2. Glove Box 40 contained three one liter containers, two of which w less than 12" apart-violations o posted Safe Operation Limit whic limits glove box storage to two one-liter containers and require 12" spacing between containers. Contrary to Appendix A, of SNM-1174, Operating Procedures and Operating Responsibilities.

9/17, 21, 26/73

Rpt letter dated 11/7/73, Rpt No. 070-1193/73-06 Seven violations-plutonium facility SNM-1174:

During the week of July 8-14, 19 employee exposed to airborne con centrations of plutonium, when averaged over 40 hours were 1.3 times the specified limits. Con trary to 10 CFR 20.103 and limit in Appendix B, Table 1 of this part.

 Required inspection of Raschig rings not performed. Contrary t proposed ANSI Standard Nevember 1965, and approved ANSI Standard N16.4-1971 required inspections.

on one occasion waste shipment received on July 11, 1973, in a "Poly Panther" DOT SP 6272 packa Contrary to Sections 71-10 and 71-12 of 10 CFR 71. Another cas Waste shipment received June 5, 1973 in a "Super Tiger" DOT SP 6400 package containing 3 drums of liquids. Contrary to License SNM-338 and Section 71-12(b) 10 CFR 71 and did not meet drop test requirements of Paragraph 173.393(g) DOT Regulations (Paragraph 20).

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CRITICALITY AND HEALTH PHYSICS PLUTONIUM INSPECTION AT KERR-MCGEE (Continued)

Date of Inspections

Report or Applicable No.

Descriptions of Violation

 Licensee changed organizational structure combining responsibilities of health and safety technical positions eliminating positi and filled position of License and Safety Officer with an inexperienc employee. Not reported to AEC-Contrary to Appendix A, Licensee SNM-1174.

5. No offsite survey performed on April 17, 1972 to evaluate consequences of two departing contaminated employees. Contrary to

10 CFR 20.201(b).

On May 24 and June 4, 1973 one hour tornado alerts received by licensee with the required Manage ment appraisals not documented. Contrary to Condition 18, License SNM-1174.

Records were not maintained of th Results of surveys for contamination on the solid waste storage trailer prior to painting. Contr to 10 CFR 20.401(b) and 10 CFR 20.201(b).

10/19, 25, 26/73 and 11/2/73

Rpt Letter dated 12/4/73, Rpt No. 070-1193/73-07

2/11-15/74

Rpt letter dated 4/8/74, Rpt No. 070-1193/74-01

No violations.

SNM-1174, Three violations:

 October 28 to November 3, 1973, seven employees exposed to airborne concentrations when average over 40 hours were in excess by 1.2 to 1.6 times the specified limits. Contrary to 10 CFR 20.1

CRITICALITY AND HEALTH PHYSICS PLUTONIUM INSPECTION AT KERR-MCGEE (Continued)

Date of Inspections

Report or Applicable No.

Descriptions of Violation

November 25-December 1, 1973, one employee exposed to airborne concentrations, for 40 hour average of 1.5 times the specified limits. Contrary to 10 CFR 20.103.

3. Week of February 10-16, 1974, two employees exposed to airborne concentrations for 40 hour average of 1.4 times the specified limits. Contrary to 10 CFR 20.103.

5/20-24/74

Rpt Letter dated 6/20/74, Rpt No. 070-1193/74-05

SNM-1174-plutonium facility, five violations.

In-place DOP Testing of final high efficiency filters not perform annually. Contrary to License Condition No. 21.

2. Licensee through its contracted nuclear safety consultant (Battelle Northwest) utilized Monte Carlo computer Code, KENO, in criticality safety analysis for vault storage. Contrary to Item 8 License SNM-1) and Page 26, Appendix A.

Nuclear safety analyses made prior to 1973 not verified by the Licensing and Regulations Officer (1 of 8 only had been initiated by L&RO). Contrary to page 19.1,

Appendix A, SNM-1174.

No evidence that the physcial inspection of several equipment and facility changes had been made prior to usage. Contrary to Page 4, Appendix A, SNM-1174.

5. Licensee using sub-floor storage wells in the Inspection and Asser bly Room(121) and Glove Box Stora Wells in the Fabrication Room(123 Licensee requested an Amendment. Contrary to Page 17.4 Appendix A, SNM-1174.