

FOIA/PA NO: 2015-0150

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Region III Files

May 27, 1966

James M. Allen, Senior Radiation Specialist

COMPLIANCE INQUIRY MEMORANDUM
CONTINENTAL MINING AND MILLING COMPANY, CHICAGO, ILLINOIS
LICENSE NO. SPA-862

Docket No. 40-6811

CO:III:DLF

On May 10, 1966, a telephone call was received by Region III office from Fred Belcher, Manager, Veldon Springs, Missouri, AEC, concerning the transportation of uranium residues from an AEC stock pile at 50 Brown Road, Robertson, Missouri, to the Continental Mining and Milling Company (CMI) in Hazelwood, Missouri.

In this call to James Allen, Region III, Mr. Belcher reported observing the blowing of dust from the material during transport. In response to that call, D. L. Foster, Region III, made a visit to the licensee's facility on May 16, 1966. At the time of the visit, it was noted that no material was being moved due to heavy rains in the area. The AEC stock pile area at 50 Brown Road was soggy and under water. It was impossible for trucks or the front end loading Caterpillar tractor to get into the stock pile loading area.

A visit was then made to the CMI facility at 9200 Latty Avenue, Hazelwood, where Mr. Thomas H. Charonicle, Warehouse Superintendent for the subject licensee, was contacted. Mr. Charonicle was asked if he could direct this inspector to Mr. T. M. Dunkle, Chief Chemical Engineer, Mr. Claude Frazier, Plant Superintendent, or Mr. Alan R. Denning, Director of Radiological Safety. Mr. Charonicle reported that none of these individuals were actually located at this facility, and further that he knew none of these named individuals. Mr. Charonicle was asked where Mr. Clemens Roark, Vice-President of Continental Mining and Milling Company, could be contacted. Mr. Charonicle stated that Mr. Roark is no longer Vice-President, that he has been replaced by Mr. Joseph J. Donovan, Executive Vice-President, whose office was at 208 South LaSalle Street, Chicago, Illinois. In further conversations with Mr. Charonicle, it was learned that Mr. Roark has been replaced as Vice-President and is basically out of the company; Mr. Gene Loose, Industrial Designer and Consultant for the concerned was no longer employed by Continental; that Mr. Frazier, previously designated as Plant Superintendent, is no longer being considered for that position; and that Mr. Dunkle and Mr. Denning are presently physically located in California.

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May 27, 1966

It was noticed by the inspector that the licensee's grounds had been fenced with a chain link 6 foot fence. It was further noted by the inspector that in the vicinity of the office buildings and the Production Building which is currently under construction, portions of the fence have been removed for ease of entrance for the trucks and vehicles, and the gates in the area of the buildings had been removed for ease in entrance. It was further noted that two gates in the fence located near the roadway were not locked.

At the time of the Region III visit, the licensee had moved in residues of uranium material originally received from the Congo. This material was referred to as the Congo residues. The licensee stated that they also had Colorado residues which had not been moved in as yet. The stock pile at the licensee's facility was approximately 30 feet wide, 100 feet long, and 8 feet high. This material had been moved from the AEC storage site, 50 Brown Road, to the Hazelwood facility by truck. The fence surrounding this stock pile area was the one in which there were gates not locked, gates not installed, and fencing removed. Likewise, located outside of the fenced area, there were approximately 100 barrels of what was identified as miscellaneous residues. Radiation surveys conducted by the inspector utilizing Eberline Model E-5003 GM survey meter revealed an average of 0.1 mr/hr at the fence line around the major stock pile. The maximum noted at the fence line around this stock pile was 0.5 mr/hr. A survey around the barrel storage area showed an average of 0.8 mr/hr at 18 inches from the barrels and a maximum reading of 10 mr/hr at 18 inches. The maximum radiation level detected from any single barrel was 90 mr/hr at contact. The barrel storage area was an unfenced region directly behind the main office building.

It was pointed out to the licensee's employee, Mr. Charonicle, that License Condition No. 9 of License No. SMA-862 specified that the transfer of source material to the licensee's Hazelwood, Missouri site was not authorized until fencing and locked gates had been installed in accordance with licensee's submittal dated February 1966. Mr. Charonicle stated that he knew nothing about this and had never heard of nor seen their AEC license

Mr. Charonicle stated that he thought it would be wise for Mr. Donovan, Executive Vice-President, to be contacted at that time. A call was placed to Mr. Donovan at Chicago, and a conference call between Mr. Charonicle, Mr. Donovan, and this inspector ensued. Mr. Donovan was informed that the license condition specified that the locked gate fencing was to be installed prior to the storage of material at the Hazelwood site. Mr. Donovan instructed Mr. Charonicle to immediately have the gates installed and the area fencing completed. The inspector informed Mr. Donovan that

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May 27, 1966

something would have to be done about the barrels which were stored outside of the fenced area and having the existing radiation areas. Mr. Charonicle suggested that instead of moving the barrels inside of the fenced area, that it could be better to extend the fencing all the way around that portion of the licensee's facility and include that area where the barrels were stored in a locked fenced area. Mr. Donovan instructed Mr. Charonicle to have it done immediately. The inspector further informed Mr. Donovan that the area would require posting with signs showing the conventional radiation symbol and the words "Caution - Radioactive Material" and the words "Caution - Radiation Area." Mr. Donovan instructed Mr. Charonicle to get whatever signs were necessary and to have them installed immediately. Mr. Donovan was further questioned as to what health physics practices specified in the license backup were being followed during the movement of material from the 50 Brown Road site to the Hazelwood site. Mr. Donovan stated he had not the slightest idea, that he doubted seriously if any such practices were being followed since it was the first that he had heard of them, and he was certain that nobody else would be following up on this. Mr. Donovan stated that anything that was required of them, they would attempt to comply with. The inspector informed Mr. Donovan that he would be in touch with him as soon as he learned more of what was going on at that facility.

The inspector, accompanied by Mr. Charonicle, visited the AEC storage site at 50 Brown Road, Robertson, Missouri. It was noted that hoses were available that could be used for washing-down the wheels of the vehicles before they left the facility. It was further explained to the inspector that a concrete pit area was constructed in the area which contained water in which the truck could drive into and back out of and thereby wash more of the residues from the under carriages of the vehicles. Mr. Charonicle stated that he was not certain that this was being done, but that the contractors and truck drivers had been instructed to do this. Mr. Charonicle stated that to his knowledge, no one had made any surveys of the facilities, surveys of the radiation levels from the vehicles, surveys of radiation levels in the truck cabs or made air or water samples at either of the facilities. Likewise, Mr. Charonicle stated that he did not know of anyone utilizing film badges or dosimeters at either location, or in between. These items were all things that were mentioned in the backup material as health physics practices which would be followed during the movement of materials from one facility to the other. Mr. Charonicle stated that movement of material has been stopped on May 12, 1966, due to heavy rain and that it was not anticipated that materials could be moved before May 18 or 19.

The inspector, still accompanied by Mr. Charonicle, followed the route taken by the trucks in traveling from the 50 Brown Road site to the Hazelwood

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May 27, 1966

Missouri site. It was noted in a number of places along the roadway that material resembling that at the storage site appeared to have fallen from vehicles. Checks of this material with a survey instrument revealed radiation levels up to 1 mc/hr at contact, indicating that this was, indeed, material from the transport vehicles. These were pointed out to Mr. Charonicle and the need shown for either lowering the loading level to which the vehicles were filled or the covering of vehicles during transport, or both. Mr. Charonicle stated that the contractors had been instructed to fill the vehicles no more than 3/4 of the way to the top. He further stated that he would talk to them, but that he felt that the covering of these vehicles during transport would present no problem.

All of the above mentioned discrepancies from the license conditions were discussed with Mr. Charonicle. Mr. Charonicle stated that he would immediately contact, and did indeed phone, the fencing contractor and ordered the completion of the fence and gates around that facility. Copies of the required signs for posting the area were given to Mr. Charonicle along with a copy of Form AEC-3.

The inspector returned to Region III offices and visited the offices of Mr. Joseph J. Donovan, Room 853, 208 South LaSalle, Chicago, Illinois, on May 17, 1966. At that location, the discrepancies noted during the visit to the licensee's facility were pointed out. Mr. Donovan immediately admitted that most of what the inspector was talking about was not understood. He went on to explain that he had taken over as Executive Vice-President of GIM as a protection of the money invested by a number of individuals. It would be his job to make the company a profitable organization. Much of the material discussed and referred to in the backup material of this license was foreign to Mr. Donovan. He did not have copies of any of the letters referenced in the document. As discussions of the problems continued, it became apparent to Mr. Donovan that he was going to require some assistance in solving these problems. He informed the inspector that he had taken the design and analysis of materials out of the hands of the people handling it on the west coast, name Dunkle and Denning, and had turned this over to the Colorado School of Mines who was to do the assays, perform the pilot plant studies, and design the flow sheets for construction of the production facility. Mr. Donovan stated that at that time, these plans would be turned over to an organization to construct the facility itself on a turn-key basis. Mr. Donovan explained that due to personnel difficulties, all new personnel were being hired for the handling of this facility.

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May 27, 1966

It was explained to Mr. Donavan that his current license was for the movement of material from the AEC site at 50 Brown Road to the licensee's Hazelwood site only and did not cover processing of any of the material. Mr. Donavan stated that this he understood. It was further pointed out to Mr. Donavan that the backup material contained many statements that had been incorporated into the license which required the licensee to perform certain health physics functions. Mr. Donavan stated that as he read these, he had the feeling that much of this was unrealistic. Mr. Donavan wanted to know if somebody else could be hired to come in and make an analysis of the problem. He was informed that this was permissible. Mr. Donavan stated that it was his intentions to stop all movement of materials at the present time, hire a health physics consultant to make a survey of the facility, and determine what was necessary for that job. He stated that he would then hand carry this information to Headquarters where it would be given to licensing personnel and a request made for the amendment of their license. He further stated that it was his intentions to ask licensing to disregard all information provided to them previously concerning this license. He stated that he would explain to them what he was doing and that as the information was received from the Colorado School of Mines, this would be reviewed with a consultant and then provided to licensing as the basis for a new production license. The licensee further stated that the construction of a fence around the facility and the hanging of the gates was in progress at the time of the meeting on May 17, and should be completed by noon of May 18, 1966. During the discussions, Mr. Donavan picked up the phone and ordered a number of the required signs and specified an immediate delivery to him. He stated that he would hand carry these to St. Louis on May 19, 1966. It was further noted by the inspector that during the period while discussions were being held with Mr. Donavan, a representative of the Nuclear-Chicago Company was with the licensee's accountant and an order was being placed for radiation detection equipment.

In a subsequent telephone call to the inspector from Mr. Donavan on May 18, 1966, information was provided that the Nuclear Consultants Corporation of St. Louis, Missouri, had been hired as a consultant to evaluate the problems in the movement of material from the 50 Brown Road site to the Hazelwood site and storage at the site. He stated that this evaluation was to be made on May 19, 1966, and that as soon as this information was received, it would be transmitted to the Region III office. Mr. Donavan was informed that this inspector would be in the St. Louis area during the following week and that a visit would be made to that facility to note any progress. Mr. Donavan stated that he would not personally be there since it was his intentions to be in Washington during the early part of that week and then back in Chicago in the latter part. Mr. Donavan further indicated that the Nuclear Consultant Corporation would be hired

- continued -

his own personnel, one that he could trust, capable of making a basic survey to protect their interest.

Although the licensee has not fulfilled all of the requirements of the license, no health hazard appears at the present time to exist. The material being transported has been stock piled in an open, fenced area since the 1940's at the end of Lambert Field, the St. Louis Municipal Airport, an area surrounded by the McDonnell Aircraft facilities. The movement of this material to the Hazelwood site, approximately one mile distance, should not present an increased hazard to the general public.

The Division of Materials Licensing or Enforcement Branch, SLR, may wish to correspond with the licensee regarding the changes in company personnel and future plans. Region III is not recommending any enforcement action with respect to the discrepancies found at the licensee's storage site since the licensee Executive Vice-President indicated these matters would be taken care of immediately and that no further material would be moved until that time.

cc: J. R. Roeder, CO:HQ

R. G. Page, Enforcement Branch, SLR, HQ

D. Nussbaumer, Division of Materials Licensing, HQ

CONTEMPORARY METALS

Review of Application

Phase 1, 2 and 3

Control of dust generation is adequate with spray towers over the belt feeder at the AEC storage site and also at the belt feeder supplying the grizzly at the mill site. There is no crushing or grinding operation.

Process

There is no classifier circuit involved before the feed enters the leaching tank probably because (1) the raffinate resulting from AEC operations has already been classified and (2) it appears that the leaching process, both acid and alkaline, is a dumping operation into 150,000 gallon mixing tanks. After leaching the feed is sized by a "screen" not further identified. This may involve a screw classifier or a wet table for segregation of oversize sands. The applicant should clarify. The process is "wet" with the final product, $UO_2(OH)_2$, going to market.

Additional Information Needed:

A. Uranium Product

1. What is the moisture content of the final product?
2. Is there a drying step involved?
3. How is it packaged?
4. Drawing of packaging area showing equipment and layout including ventilation system.

B. Bag SO₂ Product

B. 1. Barite was probably used as a Radium getter under AEC operations therefore there should be some check on this product for radioactivity.

C. MI, Co, RE etc. Products:

(no problems in this area)

Waste Disposal:

It is postulated that there will be a buildup of radium in the waste solution which will be trapped in the 2-1000 gallon septic tanks. Also at a daily feed rate of 25,000 gallons to the septic tanks there is a question of too rapid a feed rate since it appears that between 12,000 to 24,000 gallons of liquid waste have to be gotten rid of in some manner. The following information is required.

1. Adequacy of septic tanks as to ratio between input rate and capacity.
2. Type of septic tanks i.e. dry-well or a field-dispersion system.
3. Treatment of waste within the tanks? Clean out procedures?

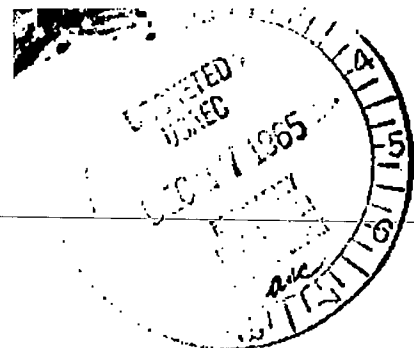
Radiation Safety Procedures:

A. Air sampling

1. Should take air samples in the area of U precipitation and drum fellers (Barium SO₄ cycle) suggest that applicant take weekly samples for a two-month period and then readjust the program as appropriate.

Reasons: Ammonia is used in this area which is under roof and the ammonium-di-uranate formed can become airborne.

- B. A similar air sampling program should be conducted in the Raffinate cycle area in the vicinity of the drum filter.
- C. It is suggested that the results of air sampling be in connection with Note 2 of the Appendix B.



CONTEMPORARY METALS CORPORATION
P.O. Box 5936
Berkeley, Mo.
63124

December 24, 1965

Mr. Robert Loyfield
Division of Materials Licensing
Source & Materials Special Nuclear Branch
U.S. Atomic Energy Commission
Washington, D.C. 20545

Re: License No. SMB -654

Dear Mr. Loyfield;

Following the phone conversation held with you and our General Counsel, Mr. D. Glen Ofsthun, from New York City, we have taken the following steps:

1. We have initiated formation of our new corporation, which will be called Continental Mining & Milling Co., representing the interests of the original Contemporary Metals Corporation and Lakeview Minerals, Inc. group, and those of the investing sponsors, under the same management and safety direction as was formed for the Contemporary Metals Corporation.

2. Mr. Ofsthun and I met this week with Mr. F.H. Belcher, Area Manager of the U.S. Atomic Energy Commission in Weldon Springs. There we reviewed with him the financial structure of the new company, its participation by the Contemporary Metals Corp. personnel, and the proposed change of site (which I discussed with you by phone from St. Louis two weeks ago). It was agreed that we would immediately submit a revised proposal to the AEC for stockpile acquisition and moving of the material to our site. This application, together with our check or letter of credit for \$126,500, and our revised license application to your office, will be filed on or before December 30, 1965.

We have received the forms sent by Mr. Donald A. Nussbaumer and will file them this coming week.

Sincerely yours,

Glen M. Roark
Glen M. Roark, Director
Contemporary Metals Corp.
Continental Mining & Milling Co.

Copy Provided Compliance 422 11/4/66

cc: Mr. F. H. Belcher
Mr. D. Glen Ofsthun

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PDR FOIA
BARNE86-117 PDR

ACKNOWLEDGED

4070

GOVERNMENT PRINTING OFFICE: 1964 - 725-836

FROM:

Contemporary Metals Corp.
Berkeley, No.

DATE OF DOCUMENT:

12-24-65

DATE RECEIVED

12-27-65

NO.

4070

LTR

MEMO

REPORT

OTHER

X

TO:

R. Layfield

ORIG.

CC

OTHER

1

ACTION NECESSARY ☐

CONCURRENCE ☐

DATE ANSWERED

NO ACTION NECESSARY ☐

COMMENT ☐

BY:

CLASSIF.

POST OFFICE

U

REG. NO.

FILE CODE:

DOCKET: 40-6811

DESCRIPTION: (Must Be Unclassified)

Ltr. ref. lic. 12-B-654 and hereby advising of their formation of a new corp., which will be called Continental Mining & Milling Co., etc., and trans: ENCLOSURES.

(1 cy.)

Ltr. 12-24-65 fm Contemporary Metals to F. H. Belcher, Area Manager for AEC regarding the 50 Brown Road Residue Stockpile.....

REMARKS:

Mail Room Distribution:
1-PDR Copy

REFERRED TO

DATE

RECEIVED BY

D

Nussbaumer, 12-29

w/file cy.

1-compliance cy.

4070

U. S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC (B-60)

CONTINENTAL MINING & MILLING CO.
208 South LaSalle Street
Chicago, Illinois 60604

January 27, 1966

AIR MAIL

Mr. Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Materials Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Ref: 40-6811 *File Copy*
License No. SMB-654

Dear Mr. Nussbaumer:

I am writing this letter pursuant to the request of Mr. Clemons M. Roark of Contemporary Metals Corporation. This is to inform you that Contemporary Metals Corporation, a California corporation, is a wholly owned subsidiary of Lakeview Minerals, Inc., a Nevada corporation, which in turn is a wholly owned subsidiary of Continental Mining & Milling Co., a Delaware corporation.

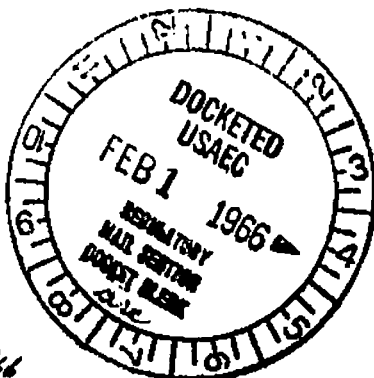
Yours very truly,

CONTINENTAL MINING & MILLING CO.

By

D. Glenn Ofsthun
D. Glenn Ofsthun
Assistant Secretary

DGO/dec



Copy Provided Compliance

Y.S.S. 2/2/66

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PDR FOIA
BAPMERRA-117 PDR

ACKNOWLEDGED

339

FROM:

Continental Mining & Milling Co.
Chicago, Illinois

TO:

(P. Glenn (Ft. 1140))

D. Friedmaner

CLASSIFICATION

U

POST OFFICE

REG. NO.

EXEMPTION (Must be Unclassified)

Ltr. (pursuant to the request of Mr. Clomons M. Bork of Contemporary Metals Corp.) advising that Contemporary Metals Corp., a Calif. corp., is a wholly owned

ENCLOSURES:

subsidiary of Lakeview Minerals, Inc., etc.....

DATE OF DOCUMENT:

1-27-66

DATE RECEIVED

2-1-66

LTR.

MEMO.

REPORT

OTHER

ORIG.

CC.

OTHER

1

ACTION NECESSARY

☐

CONCURRENCE

☐

DATE APPROVED

NO ACTION NECESSARY

☐

COMMITTEE

☐

BY

FILE CODE

DOCKET: 40-6811

REFERRED TO

DATE

RECEIVED BY

DA

Musslaumer: 2-2

w/file cy.

1-compliance cy.

1-extra

REMARKS:

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1-Plk Copy

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U. S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM

FORM AEC-1
(8-60)

70-6811
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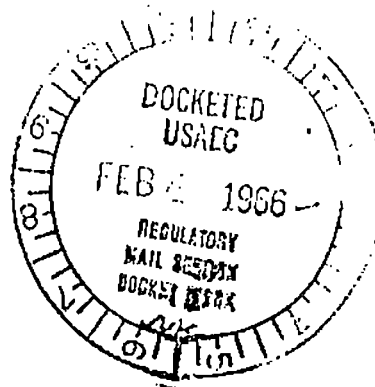
LAW OFFICES OF
STEVENSON, CONAGHAN, HACKBERT, ROOKS AND PITTS
208 SOUTH LA SALLE STREET
CHICAGO 60604

R. CORWINE STEVENSON 1895-1968
PAUL H. CONAGHAN
HARLAN L. HACKBERT
R. NEWTON ROOKS
HENRY L. PITTS
WILLIAM W. FULLAGAR
DOUGLAS F. STEVENSON
ERWIN E. SCHULZE
D. GLENN DISTHON
RICHARD B. CUSHING (ON LEAVE)
ROBERT L. HESSE
DANIEL P. SOCHA
JAY A. LIPE
EUGENE H. RUARK
JEREMIAH MARSH
RAY F. DREXLER
W. GERALD THURSBY
PAUL NOLAND
JOSEPH S. WRIGHT, JR.
DONALD G. FARRELL
E. DAVID ROLLERT
STEPHEN E. SWARD

FRANKLIN 2-5600

February 2, 1966

KENNER E. KNAPP 1887-1903
KNAPP, WAYNIE AND CAMPBELL 1904-1908
KNAPP AND CAMPBELL 1908-1928
KNAPP, BEYE, ALLEN, COCHRAN
AND CUSHING 1930-1933
KNAPP, BEYE, ALLEN AND CUSHING 1933-1937
KNAPP, ALLEN AND CUSHING 1937-1942
KNAPP, CUSHING, HERSHBERGER
AND STEVENSON 1943-1964
STEVENSON, CONAGHAN, VELOE
AND HACKBERT 1964-1968



AIR MAIL

Mr. Robert Layfield
Division of Licensing
Source Materials Branch
United States Atomic Energy Commission
Washington 25, D. C.

Re: Contemporary Metals Corporation License
for St. Louis Residues Stockpile

Dear Mr. Layfield:

Pursuant to the request of Mr. Clemons M. Roark, Vice President of Continental Mining & Milling Co., I am writing this letter to inform you that Contemporary Metals Corporation, a California corporation, is a wholly owned subsidiary of Lakeview Minerals, Inc., a Nevada corporation, which in turn is a wholly owned subsidiary of Continental Mining & Milling Co., a Delaware corporation.

Also, pursuant to discussions had with Mr. Belcher of the Weldon Spring Unit of the Atomic Energy Commission and Mr. Oakley, who is an attorney at the Oak Ridge Atomic Energy Commission Unit, the title to the St. Louis stockpile will be issued to Continental Mining & Milling Co. This issuance is done pursuant to a Board of Directors resolution of Contemporary Metals Corporation designating Continental Mining & Milling Co. as the entity to take title to the stockpile. In authorizing the transfer of the stockpile, a Mr. Sapirie of the Oak Ridge

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PDR FOIA
BARNES86-117 PDR

STEVENSON, CONAGHAN, HACKBERT, ROOKS AND PITTS

Mr. Robert Layfield

February 2, 1966

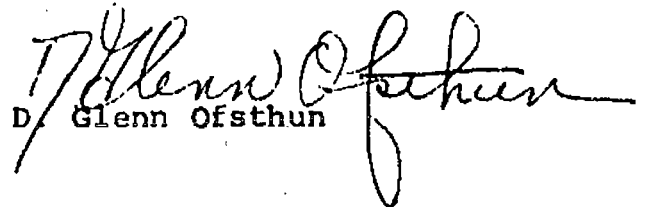
Page 2

Atomic Energy Commission Unit specifically granted to Mr. Belcher the authority to transfer the stockpile to Contemporary Metals Corporation or its designee.

If there are any questions relating to this matter please do not hesitate to call the undersigned.

I might add that I am Assistant Secretary and general counsel of Continental Mining & Milling Co.

Yours very truly,


D. Glenn Ofsthun

DGO/dec

| | | | | | | | |
|--|--|--|--|--------------------------------------|--|----------------|--|
| FROM: Law Offices of Stover, Conaghan, Hackbart, Brooke and Pitts Chicago, Illinois | | DATE OF DOCUMENT: 2-2-66 | | DATE RECEIVED 2-1-66 | | NO. 383 | |
| TO: R. Layfield | | LTR. X | | MEMO | | REPORT | |
| | | ORIG. 1 | | CC | | OTHER | |
| CLASSIFICATION U | | POST OFFICE | | REG. NO. | | FILE CODE | |
| DESCRIPTION: (Must Be Underscored) | | ACTION NECESSARY <input type="checkbox"/> | | CONCURRENCE <input type="checkbox"/> | | DATE ANSWERED | |
| | | NO ACTION NECESSARY <input type="checkbox"/> | | COMMENT <input type="checkbox"/> | | BY | |
| ENCLOSURES: | | FILE CODE | | DOCK T: 40-6811 | | | |
| Ltr. informing us (pursuant to the request of Clemons Board) that Center- porary Metals Corp., a California corp., is a wholly owned subsidiary of Lakeview Minerals, Inc., a Nevada corporation... | | REFERRED TO | | DATE | | RECEIVED BY | |
| | | NUEB-2000: 2-1 | | w/110 cy. | | | |
| | | 1-compliance cy. | | | | | |
| | | 1-extra | | | | | |
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| REMARKS: Mail Room Distribution: 1-PDR Copy | | | | | | 383 | |

U. S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM

FORM AEC-3265
(8-60)

FOR ST. LOUIS ATOMIC CORPORATION LICENSE
 AT ST. LOUIS RESIDUAL STOCKPILE

CONTINENTAL MINING & MILLING CO.SUITE 833 208 SOUTH LA SALLE STREET
CHICAGO, ILLINOIS 60604CLEMONS M. ROARK
VICE PRESIDENT

February 4, 1966

AREA CDDC 312
726-2616

Mr. Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Materials Licensing
United States Atomic Energy Commission
Washington, D.C.

Ref: 40-6811

Dear Mr. Nussbaumer:

File Copy

Confirming our understanding of the meeting which I, and our General Counsel, Mr. D. Glenn Ofsthun, held with you and your staff in Bethesda, Maryland, yesterday:

1. It is requested that the Contemporary Metals Corporation application of December 27, 1965 for renewal of License No. SEB-654 be approved, with the understanding that the only work which may be done under it is work on the AEC stockpile site at 50 Brown Road.

2. We will submit on Monday or Tuesday a new consolidated license application in the name of Continental Mining & Milling Co., as the owner of the stockpile, to cover all work of loading the stockpile material on rail cars and trucks, hauling to the new site at 9200 Latty Avenue, Hazelwood, Missouri, and processing the material in the new plant to be constructed by us at that location, including the loading and shipping of our products.

The Contemporary Metals Corporation license renewal application was for the site at 7210 Polson Lane, Hazelwood, Mo. This application should be amended to show the address as

9200 Latty Avenue, Hazelwood, Mo.

Enclosed herewith are the following exhibits: location map, plot plan, floor plans and elevations, and building specifications; these cover the pilot plant and main plant to be constructed by us at the Latty Avenue site. Both the site, and the plant and equipment, as well as the title to the stockpile, will now be in the name of the parent company, Continental Mining & Milling Co., as explained in the letter given you by Mr. Ofsthun.

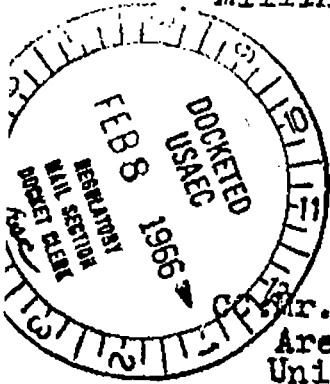
Your cooperation is greatly appreciated.

Sincerely yours,

Clemons M. Roark
Clemons M. Roark, Director
Continental Mining & Milling Co.
Contemporary Metals Corporation

8606120274 860527
PDR FOIA
BARNES86-117 PDR

Mr. F.H. Belcher,
Area Manager
United States Atomic Energy Commission
P.O. Box 470

**ACKNOWLEDGED**

134

OTHER.

CONFER

DATE REC'D

BY,

REG NO.

DATE

REMARKS:

MAIL CONTROL FORM FORM AEC-3
(8-60)

and trucks, hauling to the processing

MAR 31 1966

DAL:KEL
40-6811

Continental Mining & Milling Co.
208 South LaSalle Street
Chicago, Illinois 60604

Attention: Mr. Clemons M. Roark
Vice President

Gentlemen:

This refers to your application dated February 4, 1966, supplying additional information in support of your application for amendment of Source Material License No. SMA-862.

In connection with our review of that phase of your application dealing with the processing of residues, please provide the following information:

1. A more detailed description of the uranium product drying and bagging equipment, including the associated dust collection and ventilation equipment, and an analysis of the efficiency of the total system as designed to control or prevent the release of airborne radioactivity within the plant and environs. Please also include a sketch or diagram of the above equipment.
2. A more detailed description of your procedures for determining employee exposures to airborne radioactivity, particularly with regard to employee breathing zone surveys. While you have indicated in your license application that airborne samples will be obtained by means of four continuous air samplers, it does not appear that provisions have been established for relating results obtained to employee exposures or for insuring that the results obtained indicate actual employee exposures.

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PDR FOIA
BARNEB86-117 PDR

MAR 31 1966

3. A more detailed description of your plans for dealing with waste products. In Item 13 of Form AEC-2 of your application of February 8, 1966, you indicated that no wastes will be generated since all waste products will be assayed and sold. However, in the flow diagram of your application dated February 7, 1966, you indicate that water washed solids greater than 10 mesh will be released to waste. Please clarify and describe in detail any process steps which will require storage of liquid or solid wastes and the method of containment of such wastes. In addition, please indicate the method of waste disposal which you will follow if you are unable to sell any or all waste products.

It is noted in documents referenced in your application of February 4, 1966, that personnel working in certain operations will wear respirators. Please note that, pursuant to 20.103(c)(1) of 10 CFR 20, copy enclosed, allowance may not be made for the use of protective equipment such as respirators in determining the exposure of individuals to concentrations of airborne radioactivity without specific Commission approval. An application for authorization to use such respiratory protective equipment should be submitted pursuant to Section 20.103(c)(3). This does not mean, however, that respirators may not be used to further reduce below the limits of 10 CFR 20 exposures of individuals to concentrations of radioactive material in restricted areas.

Very truly yours,

Don F. Harmon
Source & Special Nuclear Materials Branch
Division of Materials Licensing

Enclosure:
10 CFR 20

DISTRIBUTION:
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Suppl.
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| | | | | | | |
|-----------|------------------|----------|--|--|--|--|
| OFFICE ▶ | DML | DML | | | | |
| SURNAME ▶ | KELauterbach:esc | DFHarmon | | | | |
| DATE ▶ | 3/30/66 | 3/31/66 | | | | |

DOCKETED NO. 40-6811

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NUCLEAR CONSULTANTS

BOX 6172, LAMBERT FIELD • ST. LOUIS, MISSOURI 63146 • 314 PERKINS 9-8927



DIVISION OF MALLINCKRODT CHEMICAL WORKS

LABORATORIES IN ST. LOUIS,
LOS ANGELES, CLEVELAND, NEW
YORK, CHICAGO AND ATLANTA
OFFICES IN MAJOR CITIES

May 20, 1966

Mr. L. Knocke
Continental Mining and Milling Company
9200 Latty Avenue
Hazelwood, Missouri

Dear Mr. Knocke:

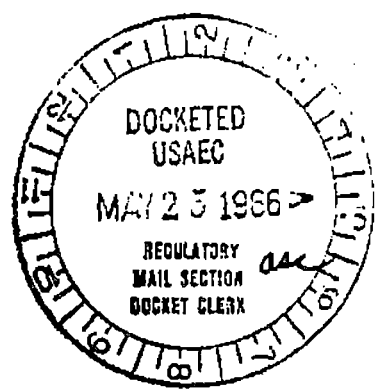
The property at 50 Brown Road, Berkeley, Missouri, was inspected by Mr. Donald Soldan for the purpose of making radiation safety recommendations pertaining to transfer of the uranium stock piles to your property at 9200 Latty Avenue in Hazelwood, Missouri.

A radiation survey of the various stock piles and storage drums was performed. The instrument used for this survey was a beta-gamma survey meter having a side window Geiger-Mueller detector. The results of this survey were as follows:

Congo raffinate stock piles (approximately 70,000 tons containing 0.2% uranium) 0.2 to 0.4 mr/hr gamma at 1" from surfaces. Beta 0.4 arbitrary units (mr/hr) at 1" from surfaces.

Colorado raffinate stock piles (approximately 35,000 tons containing 0.15% uranium) 0.1 to 0.2 mr/hr gamma at 1" from surfaces. Beta 0.2 arbitrary units (mr/hr) at 1" from surfaces.

Drums containing miscellaneous stock residue piled south of office. Average of 0.4 mr/hr gamma at surface of drums. Beta maximum reading from refractory material 2.0 arbitrary units (mr/hr) at 1" from surface.



May 20, 1966

Drums containing miscellaneous residue stock piled at the far west end of property. Gamma 2.0 mr/hr at surface of drums. Beta 0.4 arbitrary units (mr/hr) at 1" from surface of spilled material.

Wipe tests for loose alpha contamination were performed in the office area. The results obtained using a gas flow alpha proportional detector were as follows:

Desktop near door - 0 dpm/100 cm²

Other desktop - 0 dpm/100 cm²

Floor at entrance doorway - 0 dpm/100 cm²

Typewriter table - 50 dpm/100 cm²

The recommendations for transfer of stock piles are as follows:

50 Brown Road Airport Site

I. Personnel Monitoring

Continental Mining should furnish film badges to all people working in the area. The contractor should require his personnel to wear film badges while working in the area or during transfer operations. The body badges should be worn for weekly intervals until average exposures are established, at which time the film badge period may be extended to monthly intervals.

II. Radiation Level Surveys

Radiation surveys should be performed at monthly intervals to confirm the film dosimetry reports.

III. Airborne Radioactivity Surveys

High volume air samples should be taken daily during the first week of operation, then weekly during the first month, and monthly thereafter to establish and verify airborne radioactivity concentrations.

May 20, 1966

IV. Contamination Level Surveys

1. Daily surveys for alpha contamination should be performed in the office areas.
2. The wheels on each truck operating on public roads should be checked with an alpha detector. If the survey indicates excessive levels of loose alpha contamination, the wheels should be washed before the truck is permitted to leave for your location at 9200 Latty Avenue. If it was necessary to wash the wheels before leaving the 50 Brown Road property, then the wheels should be rewashed at 9200 Latty Avenue after transfer prior to the return trip.

Rules and Regulations

1. No smoking, eating, or drinking is permitted when handling radioactive materials.
2. Personnel should wash their hands after completing any operation involving radioactive materials.
3. Personnel should wear film badges at all times when working around the stock piles.

Radiation Safety Responsibilities

The operations manager shall be responsible for maintaining records of surveys performed. The operations manager shall perform the surveys personally or shall be responsible for assigning the work to someone else.

Permissible Doses, Levels and Concentrations

1. Exposure of individuals to radiation should be maintained in accordance with the provisions of Paragraph 20.101, 10 CFR Part 20.
2. The exposure of individuals to concentrations to radioactive material in restricted areas should be maintained in accordance with the provisions of Paragraph 20.103, 10 CFR Part 20.

May 20, 1966

Permissible Doses, Levels and Concentrations

3. Surfaces in the office area having contamination levels in excess of 100 dpm/cm² should be decontaminated until the levels are reduced below this value.
4. Truck wheels having alpha surface contamination levels in excess of 1000 dpm/square centimeters should be decontaminated until the levels are reduced below this value.

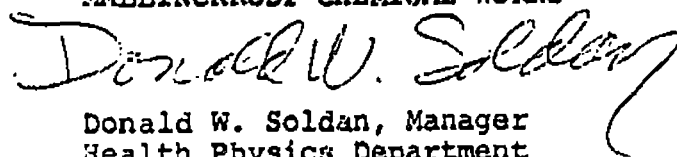
Recommended Equipment

1. Battery operated Staplex high volume air sampler or equivalent.
2. Ludlum portable count rate meter, Geiger-Mueller probe and air proportional alpha probe or alpha scintillation probe; or equivalent Eberline equipment.

Recommendations for procedures and regulations to be followed at your 9200 Latty Avenue location in Hazelwood shall be made in a subsequent letter.

Very truly yours,

NUCLEAR CONSULTANTS DIVISION
MALLINCKRODT CHEMICAL WORKS


Donald W. Soldan, Manager
Health Physics Department

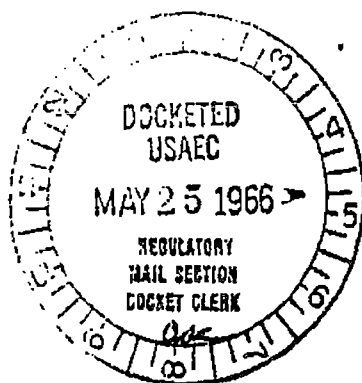
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cc: J. J. Donovan

MONITORING REFERENCES

[File Copy]

| AREA | MONITORING EQUIPMENT | FREQUENCY & COMMENT |
|--|---|--|
| 1 PHASE 1 & 2. AIRPORT SITE, LOADING AREA, AIRPORT SITE TO HAZELWOOD -- BERKELEY, MISSOURI. | PORTABLE SURVEY INSTRUMENTS. PHASE 1. RADIATION SURVEY. MODEL 2514 HIGH & MEDIUM RANGE "GUTIE-PIE". SURVEY METER FOR GAMMA & BETA RADIATION. MODEL P043 RIGID EXTENSION ARM (6'). MODEL 2672 ALPHA SURVEY METER. MODEL 1629 ALARM RATEMETER. MODEL P15 CM PROBE. MODEL 050 CM DETECTOR. MONTHLY FILM-BADGE SERVICE (GAMMA). MODEL HC402 GAMMA DOSIMETERS (SELF-READING). MODEL HC403 CHARGER. | 1). MONITOR ORIGINAL STOCKPILE AT AREA SCHEDULED FOR NEXT LOAD- ING TO DETECT ANY VOLUMES OF RADIOACTIVE MATERIAL IN EXCESS OF 5 MR. 2). MONITOR TRUCK BODY AND CAB FOR RA LEVEL BEFORE LEAVING AIR- PORT SITE TO PROTECT DRIVER & PREVENT TRANSPORTATION OF ANY CONCENTRATIONS THRU PUBLIC STREETS IN EXCESS OF 5 MR DURING PHASE 2. 3). PERSONNEL MONITORING EQUIP- MENT TO BE USED BY ALL PERSONS OPERATING DRAG LINE OR LOADING EQUIPMENT, AND TRUCK DRIVERS. 4). IF AT ANY TIME DURING LOADING OPERATION THE STOCKPILE MATERIAL SHOULD BECOME DRY ENOUGH TO GEN- ERATE ANY DUST THE PERSONNEL WORKING IN THE AREA SHALL WEAR RESPIRATORS. 5). ALARM RATEMETER TO BE POSI- TIONED AT DRAG LINE OPERATOR'S FEET AND SET TO ALARM AT 2.5 MR. 6). ALL PERSONNEL WORKING IN EXCESS OF 20 MR/WK IN STOCKPILE AREA TO HAVE QUARTERLY BIOASSAY. |
| 2 PHASE 3. STOCKPILE OF RESIDUE SOUTH OF CRANE YARD. | PHASE 3 & 4 RADIATION SURVEY. MODEL 2514 HIGH & MEDIUM RANGE "GUTIE-PIE" SURVEY METER. MODEL P043 RIGID EXTENSION ARM (6'). MODEL 2651 LOW RANGE SURVEY METER FOR GAMMA RADIATION. MODEL 2672 ALPHA SURVEY METER. MODEL 1629 ALARM RATEMETER. MODEL P15 CM PROBE. MODEL 050 CM DETECTOR. | 1). PERSONNEL MONITORING EQUIP- MENT TO BE USED BY ALL PERSONS OPERATING DRAG LINE OR LOADING EQUIPMENT. 2). IF AT ANY TIME DURING LOADING OPERATION THE STOCKPILE MATERIAL SHOULD BECOME DRY ENOUGH TO GEN- ERATE ANY DUST THE PERSONNEL WORKING IN THE AREA SHALL WEAR RESPIRATORS. 3). ALARM RATEMETER TO BE POSI- TIONED AT DRAG LINE OPERATOR'S FEET AND SET TO ALARM AT 2.5 MR. 4). ALL PERSONNEL WORKING IN EXCESS OF 20 MR/WK IN STOCKPILE AREA TO HAVE QUARTERLY BIOASSAY. |
| 3 PHASE 4. REJECT CONVEYOR MONITOR SYSTEM. | PHASE 4 MONITORING SYSTEMS. REJECT CONVEYOR MONITOR SYSTEM. MODEL 1629 ALARM RATEMETER. MODEL P15 CM PROBE. MODEL 050 CM DETECTOR. | 1). 3 DETECTORS LOCATED AT CON- VEYOR BELT AND CONNECTED TO AUTO- MATIC ALARM RATEMETER. ONE DE- TECTOR CENTERED ABOVE BELT AND ONE DETECTOR AT 60° TO THE RIGHT AND ONE 60° TO THE LEFT OF CENTER |



omit

omit

| AREA | MONITORING EQUIPMENT | FREQUENCY & COMMENT |
|------|----------------------|---------------------|
|------|----------------------|---------------------|

4

PHASE 4.

PLANT FEED MONITOR.
MODEL 1629 ALARM RATEMETER.
MODEL R1000A CHART RECORDER.
MODEL 00200 SCINTILLATION
DETECTOR (2" CRYSTAL).
MODEL J5SA NOSEPIECE

DETECTOR. THIS SYSTEM WILL PROVIDE A CONTINUOUS MONITORING AND ALARM SYSTEM TO PREVENT THE DISCHARGE OF ANY RA MATERIAL ABOVE .5 HR TO REJECT STOCKPILE.

1). THE PLANT FEED SYSTEM WILL BE ENCLOSED TO THE MIXING TANK AND WILL NOT CARRY MATERIAL THAT WILL REGISTER IN EXCESS OF 2.5 HR MAXIMUM. AT THIS POINT ALL OF THE MATERIAL COMING INTO THE PLANT WILL BE CONTINUOUSLY MONITORED IN COMBINATION WITH AUTOMATIC ALARM RATEMETER AND CHART RECORDER TO PROVIDE A PERMANENT RECORD OF ALL MATERIAL ENTERING THE FLOW IN THE PLANT. CAREFUL GAMMA MONITORING.

5

VENTED COVERED TANKS.

MODEL 1629 ALARM RATEMETER.
MODEL P15 GM PROBE.
MODEL 050 GM DETECTOR.
PG-33 EXTENSION CABLE AND APPROPRIATE RANGE CHAMBER.

1). ALL OF THESE TANKS TO BE COVERED AND VENTED TO "HOLD-UP" TANK A. HOLD-UP TANK A OUTPUT WILL BE CONNECTED THRU PUMP AND PIPE TO PLANT FEED AT AREA 4. THE OUTPUT WILL BE CONTINUOUSLY AND AUTOMATICALLY MONITORED WITH AUTOMATIC ALARM RATEMETER, SET TO ALARM AT 2.5 HR. IF OUTPUT REACHES 2.5 HR OUTPUT WILL BE SHUT OFF AND HOLD-UP MATERIAL DILUTED DOWN TO 2.5 HR OR LESS BEFORE OPENING TO RECYCLE TO AREA 4.

2). USE EXTENSION CABLE AND CHAMBER ATTACHED TO "OUTIE-PIE" AND DROP THRU TEST PIPE TO CHECK RA LEVEL IN HOLD-UP TANK.

6

7

8

9

10

RAFFINATE
CYCLE
PREGNANT SOLUTION.

MODEL 1629 ALARM RATEMETER.
MODEL P15 GM PROBE.
MODEL 050 GM DETECTOR.

1). THE RA OF THE PREGNANT SOLUTION AT THIS POINT SHOULD BE NIL AND THE CONTINUOUS AUTOMATIC MONITORING WILL BE SET FOR 2 TIMES BACKGROUND.

2). IF PREGNANT SOLUTION EXCEEDS 2 TIMES NORMAL BACKGROUND THE SOLUTION WILL BE BY-PASSED TO A SMALLER STANDBY FILTER AND SOLUTION WILL NOT BE PERMITTED TO GO BEYOND AREA 10 MONITORING POINT UNTIL SOLUTION DROPS TO 2 TIMES NORMAL BACKGROUND OR LESS. (IT SHOULD BE NOTED THAT NORMAL BACKGROUND MIGHT RISE IN ST. LOUIS

AREA

MONITORING EQUIPMENT*

FREQUENCY & COMMENT

RAFFINATE CYCLE
PREGNANT SOLUTION CONT'D.

AREA DUE TO ATMOSPHERIC TESTING IN OTHER AREAS, THEREFORE THE ALARM SYSTEM WILL BE CALIBRATED TO CORRECT FOR ANY SIGNIFICANT INCREASE IN BACKGROUND ABOVE NORMAL).

3). THE SLURRY WILL BE TRANSPORTED BY MEANS OF AN ENCLOSED SCREW-CONVEYOR TO THE COVERED ACID LEACHING TANK. RA LEVEL IN SYSTEM BEYOND LARGE FILTER AT AREA 10 TO FILTER AHEAD OF AREA 11, SHOULD NOT EXCEED 1.25 MR.

11

UO₂(OH)₂ ROOM

MODEL 1629 ALARM RATEMETER.
MODEL P15 GM PROBE.
MODEL D50 GM DETECTOR.
"STAPLEX" AIR SAMPLER UNIT.
(STAPLEX CO., AIR SAMPLER
DIVISION, 783 5TH AVENUE,
BROOKLYN 32, NEW YORK).

1). UO₂(OH)₂ FROM DRUM FILTER BY ENCLOSED SCREW CONVEYOR TO SEMI-AUTOMATIC BAGGING MACHINE INTO POLY-ETHYLENE HEAT SEALED BAGS INTO STEEL DRUMS. THIS ROOM PARTITIONED FROM REST OF PLANT WITH MECHANICAL VENTILATOR OF SUFFICIENT CAPACITY TO PROVIDE NEGATIVE PRESSURES AT DISCHARGE END OF BAG MACHINE. ALARM RATEMETER SET TO ALARM AT 75 MR AND SHUT FEED SYSTEM DOWN AT 100 MR. ROOM TO BE POSTED "HIGH RADIATION AREA". ANYONE ENTERING RESTRICTED AREA TO WEAR FILM BADGE, RESPIRATOR AND PROTECTIVE COATING.

2). MECHANICAL VENT TO BE CONTINUOUSLY AND AUTOMATICALLY MONITORED WITH AUTOMATIC ALARM RATEMETER. VENT TO ALSO BE MONITORED WITH AIR SAMPLER UNITS AND PAPERS ANALYZED IN LABORATORY ONCE DURING EACH 8 HOUR SHIFT, 2 HOURS AFTER START OF SHIFT. RA OF AIR PASSING THRU VENT AND FILTER NOT TO EXCEED 7×10^{-11} MICRO CURIES PER MILLI-LITRE.

12

BARIUM SULPHATE
CYCLE, BASIC
SOLUTION DISCHARGE.

MODEL 1629 ALARM RATEMETER.
MODEL P15 GM PROBE.
MODEL D50 GM DETECTOR.

1). URANIUM THORIUM CONTENT IN THIS SOLUTION NOT TO EXCEED .01%. SET ALARM RATEMETER TO ALARM AT 2 TIMES BACKGROUND TO SHUT OFF FEED PUMP TO DRUM FILTER AUTOMATICALLY. (IT SHOULD BE NOTED THAT NORMAL BACKGROUND MIGHT RISE

| AREA | MONITORING EQUIPMENT | FREQUENCY & COMMENT |
|--|---|--|
| BARIUM SULPHATE CYCLE, BASIC SOLUTION DISCHARGE CONT'D. | | IN ST. LOUIS AREA DUE TO ATMOSPHERIC TESTING IN OTHER AREAS, THEREFORE THE ALARM SYSTEM WILL BE CALIBRATED TO CORRECT FOR ANY SIGNIFICANT INCREASE IN BACKGROUND ABOVE NORMAL). |
| 13 OFFICE AREA | OFFICE AREA MONITOR. MODEL 1629 ALARM RATEMETER. MODEL P11 PROBE. MODEL 034 GM DETECTOR.- "STAPLER" AIR SAMPLER UNIT. | 1). MONITORING SYSTEM IN OFFICE AREA WOULD APPEAR TO BE SUPERFLUOUS DUE TO PHYSICAL SEPARATION BETWEEN PLANT AND OFFICE BUT AUTOMATIC ALARM RATEMETER AND DETECTOR WILL ALSO BE PROVIDED IN THIS AREA AT THE COLO AIR RETURN DUCT IN THE AIR CONDITIONING UNIT. 2). AIR SAMPLING TO FOLLOW PROCEDURE DESCRIBED FOR AREA 11 FREQUENCY & COMMENT 2). |

LABORATORY RADIATION ASSAYS FOR ALPHA ANALYSIS OF AIR SAMPLER FILTER PAPER AND GAMMA ANALYSIS OF SOLUTION WILL BE CONDUCTED IN THE EMC PLANT LABORATORY USING THE FOLLOWING EQUIPMENT.

MODEL 202 DECADE SCALER FOR PROPORTIONAL COUNTING.
MODEL 048 GAS FLOW DETECTOR (2").
MODEL M5 PROPORTIONAL SEMI-AUTOMATIC SAMPLE CHANGER.
MODEL 3037 LEAD SHIELD.
MODEL CY843 ADAPTER RING.
MODEL VK3 REGULATOR VALVE.
MODEL GP-100 PROPORTIONAL COUNTING GAS.
MODEL 8764 PREAMPLIFIER.
MODEL 8022 SAMPLE PANS.
MODEL 08202 SCINTILLATION WELL COUNTER.
MODEL 1810 RADIATION ANALYZER.
MODEL RT2 CESIUM CALIBRATION SOURCE.
MODEL TT2 TEST TUBES.

PERSONNEL MONITORING EQUIPMENT TO BE USED BY ALL PERSONS ENTERING RESTRICTED AREAS.

MONTHLY FILM BADGE SERVICE (GAMMA).
MODEL MC402 GAMMA DOSEMETERS (SELF READING).
MODEL MC403 CHARGER.

GENERAL NOTES:

*ALL MONITORING EQUIPMENT MODEL NAMES AND NUMBERS REFER TO EQUIPMENT MANUFACTURED AND DISTRIBUTED BY NUCLEAR-CHICAGO CORPORATION, 333 EAST HOWARD AVENUE AT NUCLEAR DRIVE, DES PLAINES, ILLINOIS, UNLESS OTHERWISE NOTED.

GENERAL

- A. HORSEPLAY WITH RADIOACTIVITY OR RADIATION PRODUCING DEVICES IS EXPRESSLY PROHIBITED.
- B. ALL OUTSIDE CORRESPONDENCE RELATIVE TO THE RADIOLOGICAL SAFETY PROGRAM AT CONTEMPORARY METALS CORPORATION IS THE RESPONSIBILITY OF HEALTH PHYSICS. SUCH CORRESPONDENCE BY OTHER EMPLOYEES IS PROHIBITED UNLESS APPROVED BY HEALTH PHYSICS SUPERVISION.
- C. "RADIATION" AND "CONTAMINATION" SIGNS, TAGS, LABELS, ETC., SHALL BE POSTED AND REMOVED ONLY BY OR AT THE DIRECTION OF HEALTH PHYSICS.
- D. LABORATORIED AND/OR PROCESS AREAS SHALL BE MAINTAINED IN AN ORDERLY MANNER REFLECTING GOOD HOUSEKEEPING PRACTICES.
- E. A LOG BOOK OF ALL TESTS, SAMPLINGS AND ANALYSIS READINGS AND ASSAYS TAKEN BY HEALTH PHYSICS PERSONNEL ON ALL SHIFTS TO BE MAINTAINED IN LABORATORY OFFICE TWENTY FOUR HOURS A DAY AND READILY AVAILABLE TO ALL AUTHORIZED PLANT OR INSPECTING PERSONNEL.
- F. ANY UNUSUAL PHENOMENA NOTED OR ANY HEALTH OR SAFETY WORK NOT COMPLETED ON ANY ONE SHIFT SHALL BE PASSED ON IN WRITING TO THE HEALTH PHYSICS PERSONNEL ON THE SUCCEEDING SHIFT AND IF DEEMED ADVISABLE ALSO TO SUCCEEDING SHIFT PLANT FOREMAN AND A COPY OR ORIGINAL OF ANY SUCH COMMUNICATION ALSO FILED IN THE LABORATORY OFFICE. ANY AND ALL COPIES TO BE SIGNED BY PERSON ORIGINATING AND RECEIVING THE COMMUNICATION.
- G. ALL HEALTH PHYSICS RECORDS TO BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND AT THE EXPIRATION OF SUCH FIVE YEAR PERIOD MAY BE DISPOSED OF ONLY AFTER THE RECEIPT OF A RESOLUTION AUTHORIZING DISPOSAL BY THE BOARD OF DIRECTORS OF CONTEMPORARY METALS CORPORATION.
- H. MARKETABLE PRODUCT QUALITY CONTROL WILL BE MAINTAINED UNDER A CONTRACT WITH THE ST. LOUIS TESTING LABORATORIES.

II TAGGED AREAS

- A. SMOKING, EATING, DRINKING, STORAGE OF EDIBLES AND APPLICATION OF COSMETICS ARE PROHIBITED IN TAGGED AREAS.
- B. PERSONNEL MONITORING INSTRUMENTS (FILM BADGES AND/OR DOSIMETERS) SHALL BE WORN AT ALL TIMES IN TAGGED AREAS.
- C. PERSONS HAVING OPEN (IMPROPERLY PROTECTED) CUTS OR SKIN BREAKS ARE PROHIBITED FROM ENTERING TAGGED AREAS.
- D. ALL RADIOACTIVE MATERIAL ENTERING OR LEAVING A TAGGED AREA SHALL BE MONITORED FIRST BY HEALTH PHYSICS.
- E. ANYTHING LEAVING A TAGGED AREA SHALL BE MONITORED FIRST BY HEALTH PHYSICS.
- F. ANYTHING BEING RETURNED FROM A TAGGED AREA TO A STOCK ROOM OR TOOL CRIB SHALL BE MONITORED FIRST BY HEALTH PHYSICS.
- G. ALL OUTSIDE CONTRACTOR OPERATIONS IN TAGGED AREAS SHALL BE REVIEWED

BY HEALTH PHYSICS AT LEAST TWENTY-FOUR HOURS PRIOR TO WORK INITIATION. TAGGED AREA ENTRY PERMIT IS REQUIRED FOR ALL CONTRACTOR OPERATIONS IN TAGGED AREAS.

H. DOORS TO TAGGED AREAS SHALL REMAIN CLOSED.

III USE OF RADIOACTIVE MATERIAL

- A. RADIOACTIVE MATERIAL SHALL NOT BE USED IN AN OPERATION UNLESS APPROVED BY HEALTH PHYSICS.
- B. RUBBER OR OTHER APPROVED GLOVES SHALL BE WORN WHEN HANDLING RADIOACTIVE OR CONTAMINATED MATERIALS.
- C. PROTECTIVE EQUIPMENT, AS SPECIFIED BY HEALTH PHYSICS, SHALL BE WORN IN ALL RADIOLOGICAL OPERATIONS.
- D. OPERATIONS THAT MIGHT LEAD TO THE INGESTION OF RADIOACTIVE MATERIAL (E.G., PIPETTING BY MOUTH) ARE PROHIBITED.
- E. ALL RADIOLOGICAL OPERATIONS CONDUCTED DURING NORMAL OFF-SHIFT HOURS SHALL RECEIVE PRIOR REVIEW BY HEALTH PHYSICS.
- F. RADIOLOGICAL OPERATIONS INVOLVING FIRE, SAFETY OR NON-RADIOACTIVE TOXIC MATERIAL HAZARDS SHALL BE REVIEWED BY HEALTH PHYSICS.
- G. THE DESIGN, CONSTRUCTION OR MODIFICATION OF ALL EXPERIMENTS, EQUIPMENT, OR FACILITIES INVOLVING RADIOACTIVITY OR RADIATION PRODUCING DEVICES SHALL BE REVIEWED BY HEALTH PHYSICS.
- H. ADEQUATE CONTAINMENT PRECAUTIONS SHALL BE APPLIED WHERE RADIOACTIVE MATERIALS ARE POURED, HEATED, OR PLACED UNDER PRESSURE OR VACUUM.
- I. THE CUTTING, ABRADING, WELDING, ETC., OF RADIOACTIVE OR CONTAMINATED MATERIAL SHALL NORMALLY BE PERFORMED IN PROPERLY VENTILATED AND FILTERED ENCLOSURES APPROVED BY HEALTH PHYSICS.
- J. OPERATIONS UTILIZING RADIOACTIVE GASES, LIQUIDS OR FINELY DIVIDED RADIOACTIVE SOLIDS SHALL NORMALLY BE PERFORMED IN PROPERLY VENTILATED AND FILTERED ENCLOSURES APPROVED BY HEALTH PHYSICS.
- K. RADIOACTIVE WASTE GASES AND VAPORS SHALL BE COLLECTED IN SUITABLE CONTAINERS FOR DISPOSAL UNLESS PROVISIONS ARE MADE FOR ATMOSPHERIC RELEASE THROUGH STACKS APPROVED AND MONITORED BY HEALTH PHYSICS.

IV CONTAINMENT OF RADIOACTIVE MATERIAL

- A. ALL RADIOACTIVE OR CONTAMINATED MATERIAL NOT IN IMMEDIATE USE SHALL BE STORED IN ADEQUATELY SHIELDED AND LABELLED CONTAINERS.
- B. ALL GLASS OR OTHER FRAGILE CONTAINERS FOR RADIOACTIVE OR CONTAMINATED MATERIAL SHALL BE SURROUNDED BY AN ADEQUATE SECONDARY CONTAINER.
- C. ALL CONTAINERS OF RADIOACTIVE OR CONTAMINATED MATERIAL SHALL BE APPROPRIATELY LABELLED.
- D. RADIOACTIVE MATERIAL SHALL NORMALLY BE STORED ONLY IN TAGGED AREAS OR THOSE AREAS AND RECEPTACLES APPROVED BY HEALTH PHYSICS.

V DISPOSAL OF RADIOACTIVE MATERIAL

- A. RADIOACTIVE MATERIAL, REGARDLESS OF THE QUANTITY, SHALL NOT BE PLACED IN "COLD" SINKS OR OTHER DRAINS.

- B. HEALTH PHYSICS SHALL BE REQUESTED TO MONITOR AND APPROVE THE DISCHARGE OR REMOVAL OF RADIOACTIVE LIQUIDS OR GASES FROM HOLD-UP TANKS.
- C. ST. LOUIS TESTING LABORATORIES SHALL BE REQUESTED TO MONITOR ALL MARKETABLE RADIOACTIVE MATERIAL PRIOR TO REMOVAL FROM THE PROCESSING SITE.

VI SHIPMENT OF RADIOACTIVE MATERIAL

- A. RADIOACTIVE OR CONTAMINATED MATERIAL SHALL NOT BE GIVEN TO AN OUTSIDE VENDOR UNLESS APPROVED BY HEALTH PHYSICS.
- B. HEALTH PHYSICS SHALL BE REQUESTED TO MONITOR AND APPROVE ALL SHIPMENTS OF RADIOACTIVE OR CONTAMINATED MATERIAL.
- C. SHIPPING CONTAINERS WHICH HAVE BEEN USED FOR THE SHIPMENT OF RADIOACTIVE MATERIAL SHALL BE MONITORED INTERNALLY AND EXTERNALLY FOR RADIOACTIVE CONTAMINATION FOLLOWING REMOVAL OF THE RADIOACTIVE MATERIAL.

VII DECONTAMINATION

- A. DECONTAMINATION IS THE RESPONSIBILITY OF THE OPERATING GROUP. SUCH DECONTAMINATION SHALL BE PROMPTLY EFFECTED UPON NOTIFICATION BY HEALTH PHYSICS.
- B. PERSONAL DECONTAMINATION SHALL BE PERFORMED IN A MANNER SPECIFIED BY HEALTH PHYSICS.

VIII PROTECTIVE EQUIPMENT AND DETECTION INSTRUMENTS

- A. ALL RADIATION PROTECTION EQUIPMENT AND RADIATION DETECTION INSTRUMENTATION USED TO PROTECT AGAINST RADIOLOGICAL HAZARDS SHALL BE SPECIFIED OR APPROVED BY HEALTH PHYSICS PRIOR TO PROCUREMENT OR UTILIZATION.
- B. RADIATION DETECTION INSTRUMENTATION USED FOR RADIATION PROTECTION SHALL BE CALIBRATED TO STANDARDS SPECIFIED BY HEALTH PHYSICS.
- C. EMPLOYEES SHALL NOT USE RADIATION DETECTION INSTRUMENTATION FOR RADIATION PROTECTION PURPOSES UNLESS THEY HAVE BEEN THOROUGHLY INDOCTRINATED BY HEALTH PHYSICS IN THE USE OF SUCH INSTRUMENTATION AND IN THE INTERPRETATION AND APPLICATION OF MONITORING RESULTS.
- D. RADIATION PROTECTION EQUIPMENT AND RADIATION DETECTION INSTRUMENTATION SHALL NOT BE USED FOR OTHER THAN THEIR INTENDED PURPOSE WITHOUT THE EXPRESS APPROVAL OF HEALTH PHYSICS.
- E. PERSONNEL MONITORING INSTRUMENTS, SUCH AS FILM BADGES AND DOSEMETERS, SHALL BE WORN ON THE WRIST OR CHEST UNLESS OTHERWISE SPECIFIED BY HEALTH PHYSICS.
- F. LOSS OF OR DAMAGE TO PERSONNEL MONITORING INSTRUMENTS SHALL BE REPORTED IMMEDIATELY TO HEALTH PHYSICS.
- G. NO EMPLOYEE SHALL CAUSE OR ATTEMPT TO CAUSE AN ABNORMAL INDICATION ON ANY PERSONNEL MONITORING INSTRUMENT.
- H. EMPLOYEES SHALL PROMPTLY RETURN FILM BADGES TO APPROPRIATE BADGE RACK AT THE END OF EACH PERIOD, NORMALLY FOUR WEEKS FOR EVALUATION.

IX RADIATION EXPOSURES

- A. NO EMPLOYEE SHALL KNOWINGLY EXPOSE HIMSELF OR OTHERS TO RADIOACTIVITY

IN EXCESS OF THAT PERMITTED BY APPLICABLE REGULATIONS.

- B. PERSONAL RADIATION EXPOSURES, MEASURED BY FILM BADGES OR DOSIMETERS, SHALL BE REPORTED TO AND DISCUSSED WITH ONLY THE EXPOSED EMPLOYEE, HIS SUPERVISION AND APPROPRIATE MEMBERS OF HEALTH PHYSICS, MEDICAL AND MANAGEMENT.
- C. CMC WILL EMPLOY NUCLEAR-CHICAGO MONTHLY FILM-BADGE SERVICE WHICH INCLUDES REPORTS SHOWING MOST RECENT RESULTS, ACCUMULATIVE RESULTS FOR CALENDAR QUARTERS AND FOR THE YEAR TO DATE INCLUDING THE MAINTENANCE OF REQUIRED GOVERNMENT RECORDS.

X INCIDENTS AND INJURIES

- A. ANY INJURY, NO MATTER HOW SMALL, RECEIVED WHILE WORKING IN A TAGGED AREA SHALL BE REPORTED IMMEDIATELY TO MEDICAL.
- B. ALL INCIDENTS (SPILLS, EXPLOSIONS, FIRES, ETC.) INVOLVING RADIOACTIVITY SHALL BE REPORTED IMMEDIATELY TO THE HEALTH PHYSICS OFFICE AND TO THE SHIFT PLANT FOREMAN.
- C. ALL INCIDENTS SUSPECTED OR KNOWN TO HAVE CAUSED THE INTERNAL DEPOSITION OF RADIOACTIVE MATERIAL SHALL BE REPORTED IMMEDIATELY TO HEALTH PHYSICS OFFICE WHO WILL IMMEDIATELY ARRANGE FOR THE TRANSPORTATION OF ANYONE SO INGESTING TO THE NEAREST MEDICAL CENTER CAPABLE OF HANDLING SUCH CASES. THE DIRECTOR OF HEALTH PHYSICS SHALL MAINTAIN AT ALL TIMES IN THE HEALTH PHYSICS OFFICE A LISTING OF SUCH MEDICAL CENTERS AVAILABLE FOR USE AFTER THOROUGHLY INVESTIGATING THE EXPERIENCE AND ABILITY OF SUCH CENTERS TO HANDLE CASES OF THIS NATURE.

XI RULES, REGULATIONS AND PROCEDURES

- A. THE PROVISIONS OF THE PLANT SAFETY PRACTICES AND PROCEDURES PERTINENT TO RADIOLOGICAL SAFETY CONSTITUTE SUPPLEMENTAL HEALTH PHYSICS RULES REQUIRING COMPLIANCE BY ALL EMPLOYEES.
- B. PROCEDURES ESTABLISHED BY HEALTH PHYSICS SHALL BE FOLLOWED BY ALL EMPLOYEES.
- C. ALL PROVISIONS OF THE FOLLOWING FEDERAL, STATE AND LOCAL REGULATIONS ON RADIATION PROTECTION CONSTITUTE HEALTH PHYSICS RULES. SUPERVISION ARE EXPECTED TO KEEP THEMSELVES AND EMPLOYEES INFORMED OF THE APPLICABLE PORTIONS OF SUCH REGULATIONS.
 - 1. ATOMIC ENERGY COMMISSION (AEC), CHAPTER 0500, "HEALTH AND SAFETY" APPLIES TO ALL AEC CONTRACT OPERATIONS.
 - 2. CODE OF FEDERAL REGULATIONS, TITLE 10, PART 20, "STANDARDS FOR PROTECTION AGAINST RADIATION" APPLIES TO ALL AEC LICENSEE OPERATIONS.
 - 3. CODE OF FEDERAL REGULATIONS, TITLE 49, PART 71 - 78, "EXPLOSIVES AND OTHER DANGEROUS ARTICLES" APPLIES TO THE SHIPMENT OF RADIOACTIVE MATERIALS FROM CMC INSTALLATIONS.
 - 4. IN ADDITION OTHER LOCAL RADIATION PROTECTION REGULATIONS (E.G., STATE, COUNTY, CITY, PORTAL) MAY SOMETIMES BE APPLICABLE TO CMC OPERATIONS. HEALTH PHYSICS WILL INFORM PLANT MANAGEMENT OF THESE REGULATIONS AS THEY MAY APPLY TO SPECIFIC OPERATIONS.

- D. CMC SHALL CARRY WORKMEN'S COMPENSATION INSURANCE AND PREPARE ANY STATEMENTS REQUIRED BY ANY GOVERNING BODY HAVING JURISDICTION.
- E. CMC SHALL CARRY PUBLIC LIABILITY INSURANCE COVERING ALL PHASES OF THE OPERATION (EXCEPTING THOSE AREAS COVERED BY INSURANCE OF ANY SUB-CONTRACTOR).

XII HEALTH PHYSICS PERSONNEL QUALIFICATIONS

A. DIRECTOR: SHALL BE RESPONSIBLE TO MANAGEMENT FOR EXECUTION, MAINTENANCE AND SUPPLEMENT OF ENTIRE HEALTH DIVISION. CONDUCTING SURVEYS, ROUTINE MONITORING, INCIDENT INSPECTIONS, MAINTENANCE OF MONITORING EQUIPMENT AND LABORATORY, TRAINING OF PERSONNEL IN HEALTH PHYSICS AND POSTING OF NOTICES, MAINTENANCE OF REQUIRED HEALTH RECORDS, ETC.

B. THE DIRECTOR SHALL HOLD A BACHELOR OF SCIENCE DEGREE IN ONE OF THE LIFE SCIENCES, OR EQUAL, SHALL HAVE HAD A MINIMUM OF FIVE YEARS EXPERIENCE IN INDUSTRIAL HEALTH AND OR SAFETY WORK OR EQUAL, AND SHALL HAVE HAD A MINIMUM OF TWO YEARS OF EXPERIENCE IN A PLANT HANDLING THIS TYPE OF MATERIAL AS A PRIME CONTRACTOR TO THE AEC OR EQUAL.

C. THE DIRECTOR SHALL BE RESPONSIBLE FOR THE DIRECT SUPERVISION OF HEALTH PHYSICS PERSONNEL IN PLANT AND LABORATORY DURING ALL SHIFTS FOR EVERY DAY THAT PLANT OPERATES.

D. THE DIRECTOR SHALL BE RESPONSIBLE FOR PASSING ON THE TRAINING AND EXPERIENCE QUALIFICATIONS OF ALL HEALTH PHYSICS PERSONNEL AND SHALL PREPARE WRITTEN REPORTS ON SUCH QUALIFICATIONS FOR PLANT MANAGER'S APPROVAL PRIOR TO HIRING OF ANY PERSONNEL.

PROCEDURE REFERENCES

① 1. SURVEY STOCKPILE TO DETERMINE RA LEVELS THROUGHOUT BY OBTAINING READINGS OVER ENTIRE SURFACE AND THE TAKING OF CORE SAMPLES AT THE 1/4, 1/2, 3/4 AND FULL DEPTH OF PILE. (THIS MAY BE OMITTED IF SUCH A SURVEY HAS BEEN MADE AND IS AVAILABLE FOR EVALUATION).

2. DRAG LINE TO BE USED IN ALL MOVING OF MATERIAL TO CONTINUOUS BELT BUCKET LOADING PIT. OPERATOR TO BE IN REMOTE POSITION WHERE RA LEVEL WILL BE MAINTAINED AT 2 1/2 MR OR LESS.

3. ALL TRUCK LOADS TO BE CONTINUOUSLY MONITORED DURING LOADING OPERATION. IF RADIATION LEVEL REACHED 4 MR/MR OUTSIDE THE TRUCK BODY OR INSIDE THE CAB PRIOR TO BEING LOADED TO MAXIMUM CAPACITY LOADING OF TRUCK WILL CEASE AND TRUCK WILL PROCEED WITH PARTIAL LOAD.

4. IF ANY AREAS OF UNEXPECTED HIGH CONCENTRATIONS ARE ENCOUNTERED PERSONNEL IN CHARGE OF LOADING OPERATION MAY PROCEED AS DESCRIBED IN (3) ABOVE OR LOAD INTO SPECIALLY CHILLED CONTAINERS FOR TRANSPORTATION. RA LEVEL OUTSIDE CONTAINERS NOT TO EXCEED 4 MR/MR.

5. LOADING AREA AND TRUCKS SHALL BE POSTED AS A "RADIATION AREA" WITH SIGNS BEARING SYMBOL AND WORDS AS DESCRIBED IN TITLE 10 ATOMIC ENERGY PART 20. § 20.203.

② 1. DRAG LINE TO BE USED IN ALL MOVING OF MATERIAL TO CONTINUOUS BELT BUCKET LOADING PIT. OPERATOR TO BE IN REMOTE POSITION WHERE RA LEVEL WILL BE MAINTAINED AT 2 1/2 MR OR LESS.

2. LOADING AREA SHALL BE POSTED AS A "RADIATION AREA" WITH SIGNS BEARING SYMBOL AND WORDS AS DESCRIBED IN TITLE 10 ATOMIC ENERGY PART 20. § 20.203.

③ 1. "HOLD-UP" TANK "A" 300 GAL. CAPACITY TO BE USED FOR CONTINUOUS COLLECTION OF ANY GASES THAT MIGHT BE EMITTED FROM COVERED AND VENTED TANKS IN AREAS 5, 6, 7, 8 AND 9. THIS ENCLOSED SYSTEM PREVENTS THE ESCAPE OF ANY DUSTS, FUMES, MISTS, VAPORS OR GASES INTO THE ATMOSPHERE OR PLANT AREA. IF ANY SUCH MATERIALS SHOULD COLLECT IN THE HOLD-UP TANK AND CREATE A RA CONDITION SUCH CONDITION WILL BE DETECTED AS THE RESULT OF REGULAR MONITORING AND THE RA MATERIAL WILL BE DILUTED TO 2.5 MR OR LESS AND RETURNED TO PLANT FEED CYCLE AT AREA 4. (SEE TYPICAL CROSS SECTION "X-X".)

④ 1. "HOLD-UP" TANK "B", 20,000 GAL. CAPACITY TO BE USED FOR EMERGENCY STORAGE IN CASE OF AN "INCIDENT" AT ANY AREA SHOWN ON SCHEMATIC PLAN SHEET 1, AT POINTS MARKED "TO TANK "B"". ALL OF THESE POINTS WILL BE CONNECTED WITH A PUMPING SYSTEM THRU A PIPELINE TO BOTH LIQUIDS OR SLURRIES TO HOLD-UP TANK WHERE THESE MATERIALS CAN BE MONITORED AND SAFELY STORED WHILE PRODUCTION SYSTEM IS EXAMINED TO DETERMINE AND CORRECT CAUSE OF INCIDENT. AFTER PRODUCTION SYSTEM IS REPAIRED OR READJUSTED AND ON STREAM THE MATERIAL IN HOLD-UP TANK CAN BE DILUTED AND REDUCED 2.5 MR OR LESS AND RETURNED TO PLANT FEED CYCLE AT AREA 4. (SEE TYPICAL CROSS SECTION "X-X").

⑤ 1. "HOLD-UP" TANK "C" OF 500 GAL. CAPACITY TO BE CONNECTED TO PERSONNEL DECONTAMINATION SHOWERS. RA LEVEL OF LIQUID IN TANK CAN THEN BE MONITORED AND IF NECESSARY DILUTED AND REDUCED TO 2.5 MR OR LESS AND RETURNED TO PLANT FEED CYCLE AT AREA 4.

2. PERSONNEL DECONTAMINATION SHOWERS SHALL BE PROVIDED AT THE HAZELWOOD PLANT AND THE AIRPORT SITE. TANK AT AIRPORT SITE TO LEACH INTO GROUND. ANY

PROCEDURE REFERENCES CONT'D.

PERSONNEL FOUND TO BE CONTAMINATED EXTERNALLY SHALL WASH IN A MANNER NOT TO SPREAD INITIALLY LOCALIZED MATERIAL OR ASSIST THE CONTAMINANT IN ENTERING THE BODY (EXCESSIVE SCRUBBING WHICH ABRASIONS THE SKIN). TURCO HAND CLEANSER (TURCO PRODUCTS, INC., LOS ANGELES) WILL BE USED IN THE DECONTAMINATION WASHING OF THE BODY.

6. 1. HEALTH PHYSICS PERSONNEL TO MAKE DAILY "SWIPE" TESTS AT STRATEGIC POINTS ON MACHINERY, FLOORS AND WALLS THROUGHOUT THE PLANT WHERE DESIGNATED BY HEALTH PHYSICS DEPARTMENT, TO DETERMINE IF ANY AREAS HAVE BEEN CONTAMINATED AS THE RESULT OF ANY AIR BORNE MATERIAL OR UNDETECTED LEAKS IN THE CLOSED PRODUCTION SYSTEM. *See Nos 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 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960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000*

2. IF RESPIRATORS HAVE BEEN USED IN EITHER OF THE LOADING AREAS OR ANYWHERE ELSE IN THE PLANT AS THE RESULT OF ANY UNUSUAL OR EMERGENCY CONDITION, "HOSE SWIPES" SHALL BE TAKEN TO DETERMINE THE EFFECTIVENESS OF RESPIRATORY PROTECTION. ALL SWIPES TO BE MEASURED IN ONE LABORATORY.

7. 1. 4 GENERAL AIR SAMPLING UNITS (STAPLEX) TO BE PLACED THROUGHOUT THE PLANT AT POINTS RECOMMENDED BY HEALTH PHYSICS. FILTER PAPERS TO BE EVALUATED IN ONE LABORATORY ONCE EVERY 8 HOURS.

2. GRAVITY VENTILATORS IN ROOF OF PLANT TO BE REPLACED WITH MECHANICAL VENTILATORS AND FITTED WITH 100% ABSOLUTE FILTERS.

8. 1. ALL CONTAINERS IN WHICH RADIOACTIVE MATERIALS ARE SHIPPED OR STORED SHALL BE LABELED ACCORDING TO TITLE 10 - ATOMIC ENERGY - CHAPTER 1 - ASC PART 20 § 20.203.

9. 1. LOCAL FIRE CODES TO BE OBSERVED IN PLANT CONSTRUCTION AND OPERATION.

10. 1. ALL MATERIALS SELECTED FOR PROCESSING EQUIPMENT TO SAFELY CONTAIN CORROSIVE MATERIALS IN SYSTEM TO PREVENT LEAKAGE OR SPILLAGE.

11. 1. PROCESSING AREA OF PLANT TO BE CONSPICUOUSLY POSTED AS A "RADIATION AREA".

12. 1. PERSONNEL SHALL BE INSTRUCTED AND NOTICES TO EMPLOYEES POSTED, AS PROVIDED FOR IN TITLE 10 CHAPTER 1 ASC PART 20 § 20.206.

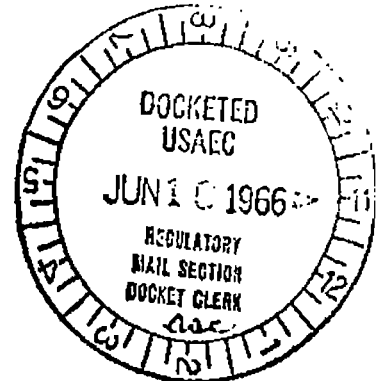
CONTINENTAL MINING & MILLING Co.

SUITE 833 208 SOUTH LA SALLE STREET
CHICAGO, ILLINOIS 60604

AREA CODE 312
726-2616

June 8, 1966

Mr. Don F. Harmon
Source & Special Nuclear Materials Branch
Division of Materials Licensing
United States Atomic Energy Commission
Washington, D.C. 20545



REF: DML:KEL
40-6811

File Copy

Dear Sir:

I am in receipt of your letter dated June 2, 1966, and Source Material License Number SMA-862 as amended, and I wish to thank you for expediting this for us.

We are well aware that this license does not authorize processing of source material in any manner. As discussed with you in our meeting, I will apply, subject to your approval, for the processing license after I have received a qualified flow sheet from the Colorado School of Mines Research Foundation which will include also the safety and health physics recommendations of Nuclear Consultants of St. Louis, Missouri.

In conferring with Dr. Lewis of the Colorado of Mines today, he advised that the revised flow sheet should be ready by June 17. When this is received, I will forward a copy to your office along with the recommendations of Nuclear Consultants.

I must apologize for Mr. Roark not answering your letter dated March 31, 1966, where you requested specific information. Listed below are the answers to the three questions, and although these questions are not answered specifically at this time, I will be able to answer them specifically when the Colorado School of Mines is finished with their work.

1. A detailed description of the uranium product drying and bagging equipment including dust collection and ventilation equipment, will be forwarded to you along with a diagram of the equipment as soon as the mechanical drawings have been completed. This, of course, depends time wise on the Colorado School of Mines.

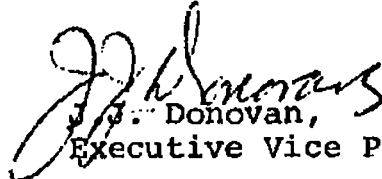
June 8, 1966

2. The procedures for determining employee exposure to air radioactivity has been accomplished by following Nuclear Consultants program for the movement of material, and we will use them also to set up the safety procedures to comply with the wishes of the Atomic Energy Commission within the plant.
3. At the moment, I do not have plans for dealing with waste products. This again is being worked on by Colorado School of Mines and we would follow their suggestions subject to your approval.

Mr. J. Forbes of C. Tennant Sons of New York City has advised that they may have a customer to purchase our waste products due to the possibility of some rare earth being left in the waste product after the removal of the copper, cobalt and uranium. This was based on the fact that the Pitchblend Raffinate composition as shown on the Original contract to bid showed a 0.22 percent of rare earth. This, of course, is subject to tests after we process the residues.

Thank you very much for your assistance in helping us obtain the above mentioned license.

Very truly yours,


J. J. Donovan,
Executive Vice President

JJD:jmc

COLLECT
XX

JUN 2 1966

USAEC, GERMANTOWN, MARYLAND
DON F. HARMON
SOURCE & SPECIAL NUCLEAR MATERIALS BR.
DIVISION OF MATERIALS LICENSING
CONTINENTAL MINING & MILLING CO.
208 SOUTH LaSALLE STREET
CHICAGO, ILLINOIS 60604

ATTENTION: MR. J. J. DONOVAN
EXECUTIVE VICE PRESIDENT

LICENSE NO. SMA-862 IS HEREBY AMENDED IN ITS ENTIRETY TO AUTHORIZE REMOVAL
OF STOCKPILE RESIDUES FROM 50 BROWN ROAD, ROBERTSON, MISSOURI, AND STORAGE ONLY
AT LICENSEE'S FACILITIES LOCATED AT 9200 LATTY AVENUE, HAZELWOOD, MISSOURI, IN
ACCORDANCE WITH PROCEDURES DESCRIBED IN LICENSEE'S APPLICATION DATED MAY 24,
1966 AND SUPPLEMENT DATED MAY 26, 1966. AS A CONDITION OF THIS LICENSE,
TRANSFER OF SOURCE MATERIAL TO LICENSEE'S HAZELWOOD, MISSOURI, SITE IS NOT
AUTHORIZED UNTIL FENCING AND LOCK GATES HAVE BEEN INSTALLED IN ACCORDANCE WITH
LICENSEE'S SUBMITTAL DATED FEBRUARY 8, 1966.

REFERENCE: DML:KEL; 40-6811; SMA-862

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40-6811

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Continental Mining & Milling Co.
208 South LaSalle Street
Chicago, Illinois 60604

Attention: Mr. J. J. Donovan
Executive Vice President

Gentlemen:

Enclosed is Source Material License No. SMA-862, as amended in its entirety.

Please note that the license, as amended, authorizes removal of stockpile residues from 50 Brown Road, Robertson, Missouri, and storage only at your facilities located at 9200 Latty Avenue, Hazelwood, Missouri, in accordance with the procedures contained in your applications dated May 24 and 26, 1966. This license does not authorize processing of source material in any manner. Application for license amendment to authorize processing at Hazelwood should be submitted on the enclosed Form AEC-2. In lieu of the information requested in Items 9 - 14 of Form AEC-2, please provide the information, as applicable, on the enclosed supplemental sheet.

As requested during our meeting of May 25, 1966, also enclosed is a copy of our letter dated March 31, 1966, to your Mr. Clemons M. Roark.

Since the license references a letter dated February 8, 1966, from Contemporary Mining and Milling Company to the Commission, we are enclosing a copy of this letter for your information.

Also, enclosed are four (4) copies of 10 CFR 20 which you requested in your telephone conversation with me on June 1, 1966.

Please contact me if you should have any questions concerning the above, or the enclosed license.

Very truly yours,

Don F. Harmon

Source & Special Nuclear Materials Branch
Division of Materials Licensing

OFFICE
Enclosures:
As stated

DML
KEL
KELauterbach:esc
6/1/66

DML
DFHarmon
6/3/66

UNITED STATES
ATOMIC ENERGY COMMISSION

SOURCE MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations, Chapter 1, Part 40, "Licensing of Source Material," and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, possess and import the source material designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954 and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission, now or hereafter in effect, including Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation," and to any conditions specified below.

| | | |
|--|--|---|
| <p align="center">Licensee</p> <p>1. Name Continental Mining & Milling Co.</p> <p>2. Address 208 South LaSalle Street Chicago, Illinois 60604</p> | | <p>3. License No. SMA-862, as amended</p> <p>4. Expiration Date February 28, 1969</p> <p>5. Docket No. 40-6811</p> |
| <p>6. Source Material Uranium and thorium</p> | <p>7. Maximum quantity of source material which licensee may possess at any one time under this license 125,000 tons of residues presently stockpiled at 50 Brown Road, Robertson, Missouri</p> | |

CONDITIONS

8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.)

Removal of stockpile residues from 50 Brown Road, Robertson, Missouri, and storage only at the licensee's facilities located at 9200 Latty Avenue, Hazelwood, Missouri, in accordance with the procedures described in the licensee's application dated May 24, 1966, and supplement dated May 26, 1966.

9. Transfer of source material to the licensee's Hazelwood, Missouri, site is not authorized until fencing and lock gates have been installed in accordance with the licensee's submittal dated February 8, 1966.

K.E.L. June 3, 66

STA 6/3/66 For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance

JUN 2 1966

★ U.S. GOVERNMENT PRINTING OFFICE: 1961-O-581891

Don F. Harmon
Division of Materials Licensing

8606120345 860527

40-6811

NOTE TO FILES:

SEE MEMORANDUM FILE FOLDER FOR 9-21-67 MEMO REGARDING TERMINATION
OF LICENSE SMA-862.

FROM:

Continental Mining & Milling Co.
Chicago, Illinois
(J. J. Donovan)

TO:

D. Harmon

CLASSIFICATION:

POST OFFICE

U

REG. NO.:

DESCRIPTION: (Must Be Unclassified)

Ltr. ack. receipt of our 6-2-66 ltr. which
enclosed Ltr. SMA-862, as amended.....and
hereby advising that the revised flow sheet
should be ready by June 17, 1966.....and

ENCLOSURES:

also replying to the questions raised in
our 3-31-66 ltr. to Clemens Roark.....

REMARKS:

Mail Room Distributions
1-PDR Copy

DATE OF DOCUMENT:

6-8-66

DATE RECEIVED:

6-10-66

NO.:

1662

LTR:

MEMO:

REPORT:

OTHER:

X

ORIG:

CC:

OTHER:

1

1

ACTION NECESSARY ☐CONCURRENCE ☐

DATE ANSWERED:

NO ACTION NECESSARY ☐COMMENT ☐

BY:

FILE CODE:

DOCKETS 40-6811

REFERRED TO

DATE

RECEIVED BY

DATE

Russsbaumer:

6-10

w/file sy.

1-compliance

1-extra

No Action Required
8-2-66/66

DO NOT REMOVE

U. S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM

Form AEC 1208
(8-60)

December 4, 1970

| | |
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| DEC | |

Cottor Corporation
P. O. Box 1000
Roswell, New Mexico 87201

Attention: Donald P. Harcott, Executive
Vice President and General
Manager

Gentlemen:

This letter relates to the discussion Mr. Ashley of this office
held with you at the conclusion of the recent inspection. In
particular, you were informed that certain of your licensed
activities appear to be in noncompliance with AEC requirements.
The item and references to the pertinent requirements are listed
in paragraph 5 of the attached Form AEC-392.

The purpose of this letter is to give you an opportunity to
advise us in writing of your position concerning the item and of
any corrective steps you have taken or plan to take with respect
to this item. The date that all corrective action has been or
will be completed should be included. Your reply should be sent
to us within 20 days of the date of this letter to ensure that
it will receive proper attention in our further evaluation of the
matter.

71020010254 701206
PDR 101A
HERMAN 90 456

| | | | | | |
|---------|-------------|---------|----------|--|--|
| OFFICE | CO: III | CO: III | CO: III | | |
| SURNAME | ASHLEY / JB | | Crier JA | | |
| DATE | 12-4-70 | 12-4-70 | 12-4-70 | | |

FORM A EEC-392 (10-6-68)

then stored at the St. Louis Airport. Movement of this material

December 4, 1970

Should you have any questions concerning this matter, you may communicate directly with this office.

Sincerely yours,

Boyce H. Crier
Regional Director

Enclosure:
Form AEO-592

cc: E. Edgerley, Jr.
Rychman, Edgerley,
Tonkinson and Associates

bc: G. W. Roy, CO:HQ - w/592(2) & Inspec. Notes
A. Giombuono, CO:HQ - w/592 & Evaluation
L. Kernblith, CO:HQ - w/592 & Evaluation
R. H. Engelken, CO:HQ - w/592 & Evaluation

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| SUP NAME | | | | | | |
| DATE | | | | | | |

FORM AEO-592 (REV. 9-52)

then stored at the St. Louis Airport. Movement of this material

NOV 13 1974

L:FFRB:WTC
40-8335
SUB-1022

Cotter Corporation
ATTN: Mr. David P. Strutt
Executive Vice President
P. O. Box 365
Golden, Colorado 80401

Gentlemen:

In accordance with your application dated May 30, 1974 and pursuant
to Title 10, Code of Federal Regulations, Part 40, Source Material
License No. SUB-1022, is hereby terminated.

FOR THE ATOMIC ENERGY COMMISSION

Respectfully,
Richard Rouse

L. C. Rouse, Chief
Fuel Fabrication and Reprocessing
Branch No. 1
Directorate of Licensing

cc: Law Offices
Edward J. McGeehan
201 North Frederick Avenue
Gaithersburg, Maryland 20878

Reference 2 (1 page)

9107000271 901700A
PDR 101A
HERMAN70 476 1317

B/4



RESPONSE TO FREEDOM OF INFORMATION ACT (FOIA) REQUEST

FOIA — 91-356

RECEIVED

SEP 21 1991

OCT 2 - 1991

J. P. McCluskey

PART I. AGENCY RECORDS RELEASED OR NOT LOCATED (See checked boxes)

No agency records subject to the request have been located.

*No additional agency records subject to the request have been located.

Requested records are available through another public distribution program. See Comments section.

XX Agency records subject to the request that are identified in Appendix A are already available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC.

XX Agency records subject to the request that are identified in Appendix B are being made available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC, in a folder under this FOIA number.

The nonproprietary content of the records that you requested by e-mail, by telephone and by mail are conversations with a member of my staff who has been made available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC, in a folder under this FOIA number.

Agency records identified in the request that are identified in Appendix C are being made available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC.

XX The records identified in the request that are identified in Appendix D are being made available for public inspection and copying at the NRC Public Document Room, 2120 L Street, N.W., Washington, DC.

XX Agency records subject to the request are enclosed.*

Records submitted to the request have been referred to another Federal agency for review and to the request to you.

Fees

You will be billed by the NRC for fees totaling \$_____.

You will receive a refund from the NRC in the amount of \$_____.

In view of NRC's response to this request, no further action is being taken on appeal letter dated _____, No _____.

PART II. A - INFORMATION WITHHELD FROM PUBLIC DISCLOSURE

Certain information in the requested records is being withheld from public disclosure pursuant to the exemptions described in and for the reasons stated in Part II, B, C, and D. Any released portions of the documents for which only part of the record is being withheld are being made available for public inspection and copying in the NRC Public Document Room, 2120 L Street, N.W., Washington, DC in a folder under this FOIA number.

COMMENTS

*Agency records subject to your FOIA request that are identified on the enclosed Appendix B are enclosed.

The NRC is continuing to review records subject to your request. We will notify you upon completion of the review.

APPENDIX A
DOCUMENTS ALREADY IN THE PDR

| NUMBER | DATE | DESCRIPTION |
|--------|----------|--|
| 1. | 05/23/89 | Letter from Ford to Swift (2 pages) PDR Accession No. 8906050265 |
| 2. | 09/19/89 | Memorandum from Swift to Rouse (3 pages) PDR Accession No. 8909250086 |
| 3. | 10/17/89 | Letter from Mehan to Carr (1 page) PDR Accession No. 8911300042 |
| 4. | 10/25/89 | Letter from Bernero to Rifakes (2 pages) PDR Accession No. 8911080128 |
| 5. | 11/17/89 | Letter from Carr to Mehan (4 pages) PDR Accession No. 8911300041 |
| 6. | 12/14/89 | Letter from Carr to Synar (2 pages) PDR Accession No. 8912280363 |
| 7. | 02/26/90 | Letter from Rifakes to Bernero (2 pages) PDR Accession No. 9004250278 |
| 8. | 09/14/90 | Letter from Haughney to Rifakes (1 page) PDR Accession No. 9009180019 |
| 9. | 03/18/91 | Letter from Bangert to Wagoner (2 pages) PDR Accession No. 9104010003 |
| 10. | 05/31/91 | Memorandum from Sreniavski to Region III Files (1 page) PDR Accession No. 9106200085 |

APPENDIX B
DOCUMENTS BEING PLACED IN THE PDR

| NUMBER | DATE | DESCRIPTION |
|--------|----------|--|
| 1. | 09/22/89 | Memorandum from Mallett to Norelius (2 pages) |
| 2. | 12/04/90 | Memorandum from Sreniawski to Region III Files (2 pages) |
| 3. | 12/10/90 | Memorandum from Sreniawski to Region III Files (4 pages) |
| 4. | 12/19/90 | Letter from Newman to Sreniawski (1 page) |
| 5. | 01/09/91 | Letter from Norelius to Wagoner (2 pages) |
| 6. | 02/08/91 | Memorandum from Sreniawski to Region III Files (1 page) |
| 7. | 03/25/91 | Memorandum from Sreniawski to Region III Files (1 page) |
| 8. | 04/10/91 | Memorandum from Sreniawski to Region III Files (1 page) |
| 9. | 08/12/91 | Memorandum from Sreniawski to Region III Files (1 page) |

SEP 22 1989

MEMORANDUM FOR: Charles E. Norelius, Director, Division of Radiation Safety
and Safeguards

FROM: Bruce S. Mallett, Ph.D., Chief, Nuclear Materials Safety Branch

SUBJECT: REMEDIATION OF WESTLAKE LANDFILL

On September 13, 1989 I met in Headquarters with members of the Cotter Corporation to discuss remediation of the Westlake Landfill near St. Louis, Missouri. Individuals from the Cotter Corporation that were present were Messrs. Ed McGrath and George Rifakes. Individuals present from the NRC were Robert Bernero, Director, NMSS, Richard Cunningham, Glen Sjoblom, Lee Rouse, Jerry Swift, Richard Bangart, Robert Fonner, myself and other staff members from NRC Headquarters. The meeting discussed three areas: History of site, issues regarding current status of site, and where we go from here. Jerry Swift discussed the chronology of the Landfill, including an item that we were unaware of in Region III (i.e., October 25, 1988, the State of Missouri DNR wrote to the EPA and asked them to put the site on the superfund ranking). It is my understanding from the meeting that the action is in EPA Headquarters. The site is being considered for the superfund, and the site will be ranked in a priority with other sites by the end of October of this year. It is also my understanding from the chronology that there are now two companies that actually have ownership to the land in Westlake Landfill, one company for each of the two sites that are contaminated with radioactive material.

After Jerry Swift discussed the chronology, Mr. Bernero led discussions of NRC concerns for current status of site and where we go from here. Mr. Bernero stated the NRC intends to write a letter to the Cotter Corporation asking them, or notifying them of their responsibility for cleanup of contaminated sites in the Landfill. NRC believes that the Cotter Corporation was responsible for the radioactive material being transferred to the Landfill and therefore, is responsible for its ultimate cleanup. The NRC has concern that the contamination in the Landfill is increasing in radium-226 and will continue to increase the hazard from radium progeny over the years. The Cotter Corporation had previously been sent the history of the Landfill and the characterization of the Landfill that the NRC has had conducted since the early 1980's. Messrs. McGrath and Rifakes stated that they would take the information back with them and they agreed to get back with Mr. Bernero within two weeks to provide Cotter Corporation's understanding and where they believe they can go with the information the NRC has provided. After that point its Mr. Bernero's intention to send them a letter from the NRC stating that they are responsible and address any other concerns in that letter with them as far as actions we would like for them to take.

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SEP 5 1989

After the meeting I had several discussions with various members in NMSS and OGC that might be of interest. One discussion was with Pat Vacca, NMSS. We discussed two issues, one was AMS and the letter that they are responding to from Ms. Sherry Stein. The letter concerned the recent event this year at St. Marys Hospital in Michigan and I concurred on the letter which was to go out sometime on September 13, 1989. The letter told AMS we were investigating the incident and we would get back to them when we completed our investigation. This would involve some onsite inspection by Region III at the St. Mary's facility in Michigan. The second topic I discussed with Pat Vacca was 3M and the letter we received from 3M in Region III on August 14th requesting that they be relieved from the reporting requirements in the February 18, 1988 Order. Pat Vacca and I were joined by John Glenn, NMSS, and the three of us discussed 3M's letter and our response. We agreed tentatively that 3M does need to be relieved from the Order, since there is no further information ongoing that they can provide to us in response. However, we also agreed to ask 3M for one final report prior to relief that would provide NRC with certain information.

The second individual I spoke to was Mr. Glen Sjoblom, NMSS. We discussed another issue that occurred at 3M (i.e., an iridium-192 source that had broken in a patient in a hospital in New Haven, Connecticut). Mr. Sjoblom was concerned that 3M did not provide NRC sufficient information to determine whether this was generic problem. I informed Mr. Sjoblom that we had sent a letter to 3M recently requesting for this information and would provide him a copy of the letter.

The next individual I talked to was Colleen Woodhead, OGC. She and I discussed the upcoming AMS Hearing and cooperation between the Region and OGC. We also discussed the status of actions needed to be done.

Bruce S. Mallett

Bruce S. Mallett, Ph.D., Chief
Nuclear Materials Safety Branch

cc: C. J. Papariello, RIII
A. B. Davis, RIII
B. Berson, RIII

cc: D. Szymanski, RIII
G. France, RIII
B. Gibbons, RIII

74 9/21/89
RIII
AS
Mallett:in

MEMORANDUM FOR: Region III

FROM: Donald J. Sreniawski, Project Manager, Fuel Facilities and Contaminated Sites

SUBJECT: MEETING WITH COTTER CORPORATION ON NOVEMBER 28, 1990 (DOCKET NO. 40-8035; 40-8801)

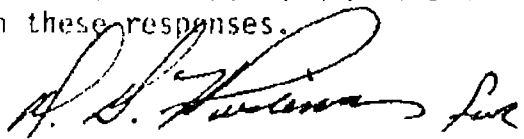
This is a summary of a meeting held with Cotter Corporation concerning remediation of the contaminated Westlake Landfill, Bridgeton, Missouri. The meeting was held in One White Flint North at 10:30 a.m. on November 28, 1990.

Cotter Corporation was represented by its president, Mr. George Rifakes and members of his staff. The NRC was represented by Mr. Robert M. Bernero, Director, Office of Nuclear Materials Safety and Safeguards and other NRC officials. A list of the NRC attendees is attached.

Cotter Corporation was informed of the outcome of the November 21, 1990, meeting with NRC-Region III, U.S. EPA-Region VII, DOE and the Missouri Department of Natural Resources representatives. That is, the meeting attendees agreed in principal to the merits of establishing a Memorandum of Understanding (MOU) among the regulatory agencies with one agency to be the lead contact for Cotter Corporation. It was also stated that U.S. EPA-Region VII believe they should be the lead agency based on preliminary indications showing the Cotter Corporation affected area at the Westlake Landfill to be a small portion of the contaminated site. The EPA felt the non-radiological hazards would dominate the site remediation.

Mr. Bernero stated that in view of impending EPA actions, the NRC would defer NRC licensing pending review of their findings. It is the NRC's understanding that the EPA will be issuing an order to the Principle Responsible Parties (PRPs) to perform a characterization of the Westlake Landfill and that the EPA believes Cotter Corporation would be only one of several PRPs.

NRC Region III will monitor the progress of the EPA order and the response ensuing as a result of the order. The NRC's decision on the form of the MOU will be dependent on the findings presented in these responses.


Donald J. Sreniawski, Project Manager
Fuel Facilities and Contaminated Sites

Attachment: As stated

cc w/o attachment:

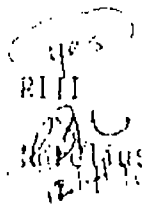
W. L. Axelson

G. M. France, III

III

2.3







11/18/90 NRC Attendees

R. Berman

R. Bangert

J. Greeves

J. Austin

R. Fonner

S. Lewis & Other OGC staff members

An attendance sheet was not generated at the meeting.

DEC 10 1990

MEMORANDUM FOR: Region III Files

THRU: Charles E. Norelius, Director, Division of Radiation
Safety and Safeguards

FROM: Donald J. Sreniawski, Project Manager, Fuel Facilities
and Contaminated Sites

SUBJECT: SUMMARY OF MEETING ON WESTLAKE LANDFILL/COTTER CORPORATION
(DOCKET NOS. 40-8035; 40-8801)

This is a summary of a meeting held with U.S. Environmental Protection Agency Region VII (EPA), Missouri Department of Natural Resources (MDNR) and U.S. Nuclear Regulatory Commission (NRC), Region III (attached is a list of attendees). The meeting was held at the EPA Regional Office in Kansas City, Kansas on November 21, 1990. The topic of the meeting was to assess areas of EPA-NRC cooperation regarding the decontamination of the Westlake Landfill. In various order, the following statements were made and issues raised.

The NRC stated that Cotter Corporation had been advised that Cotter has the responsibility to clean up the site after obtaining an NRC license to do so. The NRC role, authority and normal procedures involving decommissioning sites were presented to the meeting attendees. The feasibility of establishing a "Memorandum of Understanding" (MOU) between the NRC and EPA was discussed. All parties were positive regarding a cooperative effort to assure effective cleanup of the site. The pertinent agency positions were:

1. EPA stated they should be the lead agency, since the radiological aspects were only one part of the problem, and the full landfill site was on their national priorities list.
2. DOE stated they wanted to be on the distribution list for the correspondence involving Westlake Landfill.
3. MDNR wanted to be included in the review process of the decontamination plan. They noted that the site is also on the State Registry, and the owner cannot sell or change the use of the site without State approval.

The EPA stated they should be the lead agency because the radioactive materials at the landfill represent only a small portion of the entire area, and only one part of the materials that are considered to be hazardous. The non-radiological hazards are believed to involve many "Principal Responsible Parties" (PRPs) who would be required to share in funding the cleanup. The cost would be shared by the PRPs in some ratio proportional to the waste they contributed. Cotter would only be one of the PRPs.

DEC 10 1990

The normal EPA sequence of the events would be:

1. Define the responsible parties;
2. Assure proper site characterization;
3. Consider potential remedies, including alternatives;
4. After public comment on proposal, issue record of decision;
5. Order clean up;

To date, MDNR and EPA have not communicated with Cotter regarding their role in disposal of materials at the landfill.

Mr. Norelius said the decision on how to arrange the MOU would not be resolved at this preliminary meeting, but the issues would be presented to NRC/HQ on November 28, 1990. On that day there is a meeting scheduled in headquarters with Cotter Corporation to discuss decontamination of the landfill. Prior to that meeting, the headquarters staff will be briefed on the topics from the EPA meeting in Kansas City.

However, potential areas of cooperation that may be considered in a MOU were discussed, as follows:

1. Joint reviews of all plans;
2. Agreement on what decontamination limits apply;
3. Have one lead agency for the project; and
4. Coordinate activities so the agencies are on parallel time schedules.

Donald J. Sreniawski, Project Manager
Fuel Facilities and Contaminated Sites

Attachment: As stated

cc w/attachment:

T. C. Johnson, NMSS/LLRB

J. J. Swift, NMSS/INSB

yes
RIII
Sreniawski
12/5/90

yes
RIII
Probe
12/7

yes
RIII
Norelius
12/7/90

John F. Kennedy

November 2, 1963

| | | |
|------------------------|--------------------|----------------|
| Joseph E. Martin | EPA/CNSC | (913) 551-7595 |
| William H. Newman | EPA/SPFD | FTS 276-1754 |
| | | FTS 276-7887 |
| | | (913) 551-7887 |
| John Sreniawski | USNRC/RII | FTS 388-5611 |
| Charles Norelius | USNRC/RII | FTS 388-5510 |
| James W. Wainwright II | USNRC/HQ | FTS 388-233-49 |
| David Adlor | US DOE - Oak Ridge | FTS 626-9634 |
| Gregory J. White | EPA/SPFD | FTS 276-7729 |
| | | (913) 551-7729 |
| Karen Flounoy | EPA/SPFD/SAFE | FTS 276-7729 |
| | | (913) 551-7729 |
| Steve Sturgess | MDNR/SPFD | 314-625-388 |
| John Brain | MDNR/DEQ | 751-3176 |
| | | 314-751-452 |

EPA/ENSL Nancy Bacon

EPA/SPFD Diana Newman

US DOE/HQ James Wagoner

US DOE/Oak Ridge David Adler

EPA/SPFD ~~1/2~~ Greg McCabe

EPA/SPFD Karen Flournoy

MDNR/SPFD

Steve Sturgess

MDNR/DEQ?

David Bedaw (SP?)

U.S. ENVIRONMENTAL PROTECTION AGENCY

1200 N. W.
7th Street, Suite 1000
KANSAS CITY, KANSAS 66101

DEC 19 1990

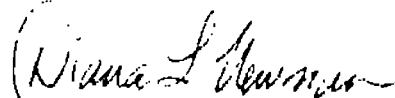
Mr. Donald J. Sreniawski
Radiation Specialist
United States Nuclear
Regulatory Commission
Region III
799 Roosevelt Rd.
Glen Ellyn, Illinois 60137

Dear Mr. Sreniawski:

During our meeting regarding Westlake Landfill on November 21, 1990, a request was made for information regarding the Superfund Remedial Investigation (RI)/Feasibility Study (FS) process. Enclosed is some general information regarding the Superfund program and guidance documentation for the RI/FS process. The documents enclosed should provide the information needed for a basic understanding of the Superfund RI/FS process.

If there are any questions or concerns regarding this information, please contact me at (913)-551-7887.

Sincerely yours,



Diana L. Newman
RPM, Site Assessment and
Federal Facilities Section
Superfund Branch
Waste Management Division

Enclosures

Mr. David Wagoner, Director
Waste Management Division
U. S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Dear Mr. Wagoner:

On November 21, 1990, I met with members of your staff to discuss our respective agency's responsibilities regarding the cleanup of Westlake Landfill near St. Louis. I have also had subsequent discussions with Ms. Diana Newman of your staff on this issue. This is to confirm our position that we are looking to EPA to take the lead with regard to pursuit of the cleanup of Westlake Landfill. At such time as a site characterization is completed, we would like to have additional meetings with you to address the specific roles of our respective agencies with regard to the site remediation.

Attached for your information is a 12/10/90 Memorandum To File regarding prior conversations on this subject. Please let me know if you have additional questions.

Sincerely,

ORIGINAL SIGNED BY C. E. NORDELIN

Charles E. Norelius, Director
Division of Radiation Safety and
Safeguards

Attachment: As stated

cc w/attachment:
Diane Newman, EPA VII
Nancy Pacun, EPA VII
A. F. Lewis, NRC PIII
R. Pangart, NRC: NMSS
G. C. Loom, NRC: NMSS

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[Handwritten initials]

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911016-0049

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NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20545
U.S. DEPARTMENT OF ENERGY
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20545

DEC 1 1990

MEMORANDUM FOR: Region III Files (Westlake Landfill)

FROM: Charles E. Norelius, Director, Division of Radiation Safety
and Safeguards

SUBJECT: SUMMARY OF DISCUSSIONS REGARDING INTERFACE WITH EPA ON THE
WESTLAKE LANDFILL (DOCKET NOS. 40-8035; 40-8801)

On November 29, 1990, I talked with Bob Bernero regarding the meeting that he had conducted with Cotter Corporation. Mr. Bernero advised that he had informed Cotter that at this point it was somewhat academic as to whether or not Cotter would obtain a license covering the Westlake Landfill since the entire landfill site was on the EPA superfund list and would be handled under the requirements of their regulations. We agreed that the way to proceed was to inform EPA of the NRC-Cotter meeting, advise them to proceed with their actions, and maintain contact with them. At such time as they obtain a site characterization, we will talk with them in more detail regarding pursuit of a Memorandum of Understanding to clarify the respective roles of our agencies, and the mechanism for working together to resolve the landfill cleanup.

On November 30, 1990 I informed Diana Newman, the EPA Project Director for this particular site, of the meeting and our view of how we should proceed from here. She agreed to this approach. I also informed James Waggoner, II, of DOE and David Bezan of the Missouri Department of Natural Resources, of these discussions.

We will contact the EPA Region VII office monthly to determine the status of their program. In my discussions with Diana Newman, she indicated that EPA has initiated action to conduct their investigation to determine the responsible parties for disposal of material at the Westlake Landfill. Once that is completed (estimated to be a few months), they would likely meet with Cotter to pursue the matter of the site characterization.

Charles E. Norelius

Charles E. Norelius, Director
Division of Radiation Safety and
Safeguards

cc: A. B. Davis
W. L. Anderson
J. A. Grube
D. J. Sreniowski

9110160052 1P

FEB 08 1

MEMORANDUM FOR: Region III File

FROM: Donald J. Sreniawski, Project Manager, Fuel Facilities
and Contaminated Sites

SUBJECT: FEBRUARY CONTACT WITH EPA REGION VII CONCERNING WEST LAKE
LANDFILL STATUS (DOCKET NOS. 40-8035; 40-8801)

On February 4, 1991, I contacted the EPA Project Director for the West Lake
Landfill Site, Diana Newman, to determine the status of their program for site
decontamination.

She stated that:

- Drafts of informational request letters are being reviewed by the EPA
Regional Counsel. They should be sent to Cotter Corporation (waste
producer) and Laidlaw (landfill owner) sometime in March 1991.
- A contractor is on board to review the information received from the
responses to the above letters to identify the Principal Responsible
Parties (PRPs).
- Once the PRPs have been identified, they will be responsible to do a
remedial investigation/feasibility study (RI/FS). The RI/FS defines a
site's physical characteristics as well as the sources, nature and
extent of contamination. In addition, the technologies being considered
for remedial action are considered.

Donald J. Sreniawski, Project Manager
Fuel Facilities and Contaminated
Sites

cc: R. Bangart, NMSS
C. Norelius, RIII

RIII

Sreniawski/jl
2/7/91

RIII

Grote

9110160055 911003
PDR FCHA
MCCLUSK91-356 PDR

9110160055 1P

THIS INFORMATION IS PRE-DECISIONAL AND NOT FOR RELEASE

MAR 25 1991

MEMORANDUM FOR: Region III Files

FROM: Donald J. Sreniawski, Project Manager, Fuel Facilities
and Contaminated Sites

SUBJECT: MARCH CONTACT WITH EPA REGION VII CONCERNING WEST LAKE
LANDFILL STATUS (DOCKET NOS. 40-8035; 40-8801)

On March 8, 1991, I contacted the EPA Project Director for the West Lake
Landfill Site, Diana Newman, to determine the status of their program for site
decontamination.

She stated that:

- The informational request letters to be sent to Colter Corporation (waste
producer) and Laidlaw (landfill owner) are still on schedule for a
March 1991 mailing.
- EPA staff took some of their contractor staff on a drive to review the
landfill from the outside, no entry was made on the site.

Donald J. Sreniawski, Project Manager
Fuel Facilities and Contaminated Sites

cc: R. Bangert, NMSS
C. Norelius, RIII

(ja)
RIII *WJ* *FILE*
Sreniawski/jl *Grobe*
3/21/91 *325*

9110160072 911003
RDR LOTA

9110160072 1,001/7

APR 11 1991

MEMORANDUM FOR: Region III Files

FROM: Donald J. Sreniawski, Project Manager, Fuel Facilities
and Contaminated Sites

SUBJECT: APRIL CONTACT WITH EPA REGION VII CONCERNING WEST LAKE
LANDFILL STATUS (DOCKET NOS. 40-8035; 40-8801)

On April 9, 1991, I contact the EPA Project Director for the West Lake
Landfill Site, Diana Newman, to determine the status of their program for site
decontamination.

She stated that:

- The informational request letters to Cotter Corporation (waste producer)
and Laidlaw (landfill owner) to be sent in March 1991 have been postponed
to April 1991. This was done to provide for the addition of about 11
more potential responsible parties to the mailing.
- A title search to more accurately define the property involved is
scheduled for completion by April 12, 1991. Preliminary information
shows the site to be divided into 25 plats with 2 different owners.

Donald J. Sreniawski, Project Manager
Fuel Facilities and Contaminated Sites

cc: R. Bangart, NMSS
C. Norelius, RIII

RIII

Sreniawski/jl
4/10/91

RIII

Grobe
4/10

9110160075 911003

9110160075 1p 6/8

Aug 12 1991

MEMORANDUM FOR: Region III Files

FROM: Donald J. Sreniawski, Project Manager, Fuel Facilities and Contaminated Sites

SUBJECT: AUGUST 7, 1991 CONTACT WITH EPA REGION VII CONCERNING WEST LAKE LANDIFLL STATUS (DOCKET NOS. 40-8035 and 40-8801)

On August 7, 1991, I contacted the EPA Project Manager for the West Lake Landfill Site, Diana Newman, to determine the status of the program for decontamination. She stated that:

- ° The replies to the information request letter have been returned from most principal parties. Cotter Corporation's response is due on September 9, 1991.
- ° US EPA/RVIII is arranging for a technical contractor to review the responses and provide input for a response.

Donald J. Sreniawski
Project Manager, Fuel Facilities
and Contaminated Sites

cc: R. Bangart, NMSS
C. Norelius, RIII

RIII
Sreniawski/mc
8/13

RIII
Grobe
8/13

9109110167 XA

8/9

~~Handwritten~~
C1 MacDonald
C2 files

J. R. Roder, Inspect. Spec. for Staff
Operations, Office of ADO, Div. of Compliance
Headquarters
James M. Allan, Senior Radiation Specialist
Region III, Division of Compliance, Chicago

May 10, 1967

COMMERCIAL DISCOUNT CORPORATION, CHICAGO, ILLINOIS
LICENSE NO. SMC-67 (.. -76 3)

The following is furnished for your information.

Subject license is authorized to store 125,000 tons of residues containing source material at 6208 Latty Avenue, Hazelwood, Missouri.

On May 2, Region III was advised by Commercial Discount Corporation that the stock pile of material was being sold to Cotter Milling Corporation, Canyon City, Colorado. The material is to be loaded on railroad cars for shipment to the Colorado site. As we understand it, the material first has to be dried to remove about 45% weight moisture to reduce the shipping cost. Commercial Discount has engaged the Barber-Greene Company to study that problem. The consulting firm of Ryckman, Edgerley, Burbank and Associates, of St. Louis has been engaged to perform any health physics work. Region IV has advised us that Cotter Milling Corporation possesses License No. R-197 which authorizes the processing of source materials.

Commercial Discount Corporation was reminded to advise DML of their plans since License No. SMC-667 authorizes storage only.

cc: D. Nussbaumer, DML

9207090341 911016
PDR FOIA
MCCLUSK91-356 PDR

INTERMEDIATE ACTION FORM

Source & SNM Licenses

| | | | | | |
|---|-------------------------------|--------------------------|--------------------------------|--------------------------------|--------------------|
| PROJECT CODE 622 | PROJECT NO. 40-7603 | WORK ORDER NO. | 4. PURPOSE OF TASK | 12. CONTROL NO. 3548 | 15. LICENSE NUMBER |
| APPLICANT Commercial Discount Corporation | | | | 16. DATE OF RECEIPT FROM TASK | |
| STREET & BUILDING 105 West Adams Street | | | 17. CLASSIFICATION U | | 18. DATE |
| CITY Chicago, | | 27. STATE Ill. | 28. ZIP 60603 | YR. MO. DAY 66 12 16 | YR. MO. DAY |
| APPLICANT'S COMMUNICATION DATED 66 12 14 | | | 19. ENCLOSURES (4 cys. rec'd) | | |

DESCRIPTION (MUST BE UNCLASSIFIED)
Ltr. dated 12-15-66 from Leibman, Williams, Bennett, Baird and Manow (Counselors) trans. the following on behalf of Commercial Discount Corporation:

AEC-2 dated 12-14-66 for sm lic. to cover 125,000 tons of residues which contains uranium and thorium for possession.....

20. DISTRIBUTION

1-PDR Copy

| INTERMEDIATE ACTIONS | | | | | | | | OTHER REFERRALS | | |
|----------------------------------|----|-------|--------|-----|-----|-----|-----|-----------------|-----|--|
| TYPE | CH | ACTIV | RETURN | YR. | MO. | DAY | YR. | MO. | DAY | |
| PL. INFO. COLLECTED ON APPLICANT | | | 1 | | | | | | | |
| REFERRED | | | 2 | | | | | | | |
| REFERRED | | | 3 | | | | | | | |

ACKNOWLEDGED

**Nussbaumer: 66 12 16
 w/file cy. & file
 1-compliance cv.**

DO NOT REMOVE

by telephone last week.

As indicated to you in our discussions and as reflected by the application, Commercial Discount Corporation has a security interest in the source material described in the application and seeks this license solely for the purpose of taking possession of the material for the purpose of the foreclosure of its security interest.

As a result of our discussions of this application, I am confident that you will find it acceptable in its present form. However, if you have any questions with regard to this application, would you please give me a call promptly.

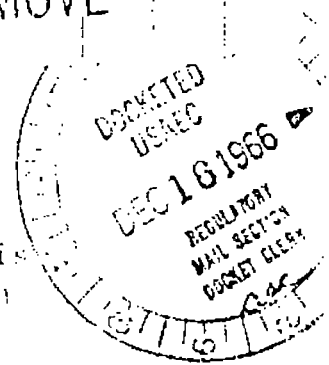
Thank you for your fine cooperation.

Sincerely,

William P. Colson
 William P. Colson

WPC:sf
 Enclosures

ACKNOWLEDGE



MORRIS T. ELMAN
D. B. WILLIAMS
RUSSELL C. BENTLEY
RUSSELL M. BENTLEY
NEWTON L. MATHW
LAURENCE S. HASTY JR.
JOHN M. GILFILLAN
DALE A. OWEN GIBSON
DAVID P. LEE
JULIAN D. WILSON
A. BRUCE STEINBERGER
GEORGE J. MULLER JR.
THOMAS M. MATHW
THOMAS A. MATHW
ROBERT E. MATHW
JAMES G. GIBSON
R. E. GIBSON

December 15, 1946

VIA AIR MAIL -SPECIAL DELIVERY

Mr. Donald Nussbaumer
Division of Licensing
and Regulation
United States Atomic
Energy Commission
Washington, D. C. 20545

Dear Mr. Nussbaumer:

Enclosed in quadruplicate is the Application for Source Material License (Form AEC-2) for Commercial Discount Corporation, which application we discussed by telephone last week.

As indicated to you in our discussions and as reflected by the application, Commercial Discount Corporation has a security interest in the source material described in the application and seeks this license solely for the purpose of taking possession of the material for the purpose of the foreclosure of its security interest.

As a result of our discussions of this application, I am confident that you will find it acceptable in its present form. However, if you have any questions with regard to this application, would you please give me a call promptly.

Thank you for your fine cooperation.

Sincerely,

William P. Colson

WPC:sf
Enclosures

ACKNOWLEDGED

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

| | | | |
|--|--|---|--|
| 1. (Check one) <input checked="" type="checkbox"/> (a) New license <input type="checkbox"/> (b) Amendment to License No. _____ <input type="checkbox"/> (c) Renewal of License No. _____ <input type="checkbox"/> (d) Previous License No. _____ | | 2. NAME OF APPLICANT Commercial Discount Corporation 105 West Adams Street Chicago, Illinois 60603 | |
| 3. STATE THE ADDRESS OF THE WORKING PLANT WHERE THE MATERIAL WILL BE STORED 9200 Latty Avenue, Hazelwood, Missouri | | | |
| 4. BUSINESS OR CORPORATION Commercial loans | | 5. TYPE OF APPLICANT Not Applicable | |
| 6. DESCRIBE PURPOSE FOR WHICH THE SOURCE MATERIAL WILL BE USED Possession for purpose of possible foreclosure of liens and security interests involving storage and resale only. | | | |
| 7. STATE THE TYPE OF MATERIAL, FORM, PHYSICAL STATE, AND QUANTITY OF MATERIAL TO BE RECEIVED (a) TYPE (b) CHEMICAL FORM (c) PHYSICAL STATE (d) MAXIMUM AMOUNT AT ANY ONE TIME IN pounds | | | |
| NORMAL URANIUM | | See description of materials in application of Continental Mining & Milling Co. dated February 8, 1966 (License No. SMA-862, as amended) (hereinafter referred to as "CMMC Application"). | |
| URANIUM DEPLETED IN THE U-235 ISOTOPE | | | |
| THORIUM | | | |
| (e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL TO BE RECEIVED AT ANY ONE TIME 125,000 tons of residues. | | | |
| 8. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROCESS THE MATERIAL TO BE RECEIVED AND THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO STORE THE MATERIAL TO BE RECEIVED. PROVIDING A THOROUGH DESCRIPTION OF THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROCESS THE MATERIAL TO BE RECEIVED AND THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO STORE THE MATERIAL TO BE RECEIVED. | | | |
| Applicant will not process source material in any way. | | | |
| 9. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROCESS THE MATERIAL TO BE RECEIVED AND THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO STORE THE MATERIAL TO BE RECEIVED. PROVIDING A THOROUGH DESCRIPTION OF THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROCESS THE MATERIAL TO BE RECEIVED AND THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO STORE THE MATERIAL TO BE RECEIVED. | | | |
| Material is currently stored with such facilities for radiation safety required by the Commission for its approval of the CMMC Application. Applicant does not intend to alter any present conditions of storage of the material. Applicant will obtain such technical assistance, if any, as may be required by the Commission. | | | |
| 10. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROCESS THE MATERIAL TO BE RECEIVED AND THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO STORE THE MATERIAL TO BE RECEIVED. PROVIDING A THOROUGH DESCRIPTION OF THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROCESS THE MATERIAL TO BE RECEIVED AND THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO STORE THE MATERIAL TO BE RECEIVED. | | | |
| Source material is surrounded by cyclone-type fencing with lock gates as described in CMMC Application and confirmed by compliance inspections by AEC. Applicant will continue to maintain aforesaid approved security precautions. | | | |
| 11. METHOD OF CHECKING AND STANDARD USED FOR CALIBRATING AND PROCESSING, OR NONE APPLIED Not Applicable | | | |

11. VERIFICATION INSTRUMENT WHICH WILL BE USED TO DETERMINE THE RADIOACTIVE CONTENT OF THE PRODUCT

Not Applicable

12. DESCRIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND SAFETY DURING THE USE AND DISPOSAL AND DECONTAMINATION PROCEDURES TO THE OPERATIONS DESCRIBED HEREIN INCLUDING:
(a) PROCEDURES FOR USE OF NUCLEAR MATERIALS AND WASTE IN CASE OF AN ACCIDENT OR A MAJOR LEAK ACCIDENT, SUCH AS FIRE, EXPLOSION, ETC. IN THE USE OF MATERIALS AND WASTE DISPOSAL AREA

Not Applicable

(b) EMERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WITH RADIOACTIVE MATERIALS

Not Applicable

(c) DETAILED DESCRIPTION OF RADIOACTIVE WASTE FROM THE PRODUCT

Not Applicable

13. WASTE PRODUCTS: If none will be generated, state "None" opposite (a), below. If waste products will be generated, check here, and explain on a supplemental sheet.

(a) Quantity and type of radioactive waste that will be generated. None

(b) Detailed procedures for waste disposal.

14. IF PRODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 10 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

(a) PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

(b) PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

(c) BETA AND BETA PLUS GAMMA RADIATION LEVELS (Specify instrument used, date of calibration and calibration technique used) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES

(d) METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT Not Applicable

CERTIFICATE

(This item must be completed by applicant)

15. The applicant, and any official executing this certificate on behalf of the applicant named in Item 1, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 40, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

COMMERCIAL DISCOUNT CORPORATION

(Applicant named in Item 1)

Dated December 14, 1966

BY

President

(Signature of official authorized to act on behalf of the applicant)

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; make it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter I, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

| | | | |
|--|--|--|--|
| 1. Check one <input checked="" type="checkbox"/> (a) New license <input type="checkbox"/> (b) Amendment to License No. _____ <input type="checkbox"/> (c) Renewal of License No. _____ <input type="checkbox"/> (d) Previous License No. _____ | | 2. NAME OF APPLICANT Commercial Discount Corporation 105 West Adams Street Chicago, Illinois 60603 | |
| 3. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE RECEIVED, STORED OR USED 9200 Latty Avenue, Hazelwood, Missouri | | | |
| 4. BUSINESS OR OCCUPATION Commercial loans | | 5. TYPE OF SOURCE MATERIAL AND ITS USE Not Applicable | |
| 6. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED Possession for purpose of possible foreclosure of liens and security interests involving storage and resale only. | | | |
| 7. STATE THE TYPE OF MATERIAL (CHEMICAL FORM, PHYSICAL FORM, AND ACTIVITY) AND THE MAXIMUM AMOUNT AT ANY ONE TIME TO BE POSSESSED OR TRANSFERRED BY THE APPLICANT | | | |
| a. TYPE | | b. CHEMICAL FORM | |
| c. PHYSICAL FORM | | d. MAXIMUM AMOUNT AT ANY ONE TIME (in pounds) | |
| NORMAL URANIUM | | See description of materials in application of Continental Mining & Milling Co. dated February 8, 1966 (License No. SMA-862, as amended) (hereinafter referred to as "CMC Application"). | |
| URANIUM ENRICHED IN THE U-235 ISOTOPE | | | |
| THORIUM | | | |
| (8) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL TO BE POSSESSED OR TRANSFERRED BY THE APPLICANT 125,000 tons of residues. | | | |
| 9. DESCRIBE THE CHEMICAL AND PHYSICAL FORM OF THE SOURCE MATERIAL TO BE POSSESSED OR TRANSFERRED BY THE APPLICANT, AND THE MAXIMUM AMOUNT AT ANY ONE TIME TO BE POSSESSED OR TRANSFERRED BY THE APPLICANT, AND THE MAXIMUM AMOUNT AT ANY ONE TIME TO BE POSSESSED OR TRANSFERRED BY THE APPLICANT, AND THE MAXIMUM AMOUNT AT ANY ONE TIME TO BE POSSESSED OR TRANSFERRED BY THE APPLICANT. Applicant will not process source material in any way. | | | |
| 10. DESCRIBE THE SAFETY AND SECURITY FACILITIES TO BE USED TO PROTECT THE SOURCE MATERIAL FROM THEFT, LOSS, OR DAMAGE, AND THE SAFETY AND SECURITY FACILITIES TO BE USED TO PROTECT THE SOURCE MATERIAL FROM THEFT, LOSS, OR DAMAGE, AND THE SAFETY AND SECURITY FACILITIES TO BE USED TO PROTECT THE SOURCE MATERIAL FROM THEFT, LOSS, OR DAMAGE. Material is currently stored with such facilities for radiation safety required by the Commission for its approval of the CMC Application. Applicant does not intend to alter any present conditions of storage of the material. Applicant will obtain such technical assistance, if any, as may be required by the Commission. | | | |
| 11. DESCRIBE THE EQUIPMENT AND FACILITIES TO BE USED TO DETECT AND MEASURE THE RADIATION LEVELS OF THE SOURCE MATERIAL, AND THE EQUIPMENT AND FACILITIES TO BE USED TO DETECT AND MEASURE THE RADIATION LEVELS OF THE SOURCE MATERIAL, AND THE EQUIPMENT AND FACILITIES TO BE USED TO DETECT AND MEASURE THE RADIATION LEVELS OF THE SOURCE MATERIAL. Source material is surrounded by cyclone-type fencing with lock gates as described in CMC Application and confirmed by compliance inspections by AEC. Applicant will continue to maintain aforesaid approved security precautions. | | | |
| 12. METHOD OF RECEIVING AND STORING THE SOURCE MATERIAL (Name of facility, location, and person in charge of receiving and storing the source material) Not Applicable | | | |

Not Applicable

12. IF CHIPS PROPOSED PRODUCT BEYOND THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 16 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO CONTAIN A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

Not Applicable

(b) DETAILED PROCEDURES FOR WASTE DISPOSAL

Not Applicable

(c) DETAILED DESCRIPTION OF THE PRODUCT

Not Applicable

13. WASTE PRODUCTS: If none will be generated, check here ☒ and explain on a supplemental sheet. If waste products will be generated, check here ☐ and explain on a supplemental sheet.

(a) Quantity and type of radioactive waste that will be generated. **None**

(b) Detailed procedures for waste disposal

14. IF PRODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN 16 CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO CONTAIN A DETAILED DESCRIPTION OF THE PRODUCT, INCLUDING:

(a) PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT

(b) PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

(c) BETA AND BETA PLUS GAMMA RADIATION LEVELS (specify instrument used, date of calibration and calibration technique used) AT THE SURFACE OF THE PRODUCT AND AT 1 INCHES

(d) METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE SEPARATED FROM THE MANUFACTURED PRODUCT. **Not Applicable**

CERTIFICATE

(This item must be completed by applicant)

15. The applicant, and any official executing this certificate on behalf of the applicant named in Item 1, certify that this application is prepared in conformity with Title 16, U.S.C. of Federal Regulation Part 40, and that all information contained herein, including any supporting documents attached hereto, is true and correct to the best of our knowledge and belief.

COMMERCIAL DISCOUNT CORPORATION

1000 15th Street, N.W.

Dated December 14, 1966

By: *[Signature]*

President

1000 15th Street, N.W., Washington, D.C. 20004

WARNING: 18 U.S.C. Section 1001; Act of June 25, 1938 (52 Stat. 749) makes it a crime to make a false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

40-7603

TWX NR 993

Regulatory Suppl File Cy.

USAEC HQS GTW

WU WSH TLX057 TLX061 (12)SYR110 S-051

S LLK118 PD 10 EXTRA ST LOJIT '0 20 1135A CBT

UNITED STATES ATOMIC ENERGY COMM, DIVN OF MATERIAL LICENSING
WASHDC

ATTN DONALD HARMON MATERIALS DISCUSSED IN OUR APPLICATION FOR
AMENDMENT OF OUR LICENSE CONTAINS 50 PER CENT MOISTURE AND
WILL BE REDUCED TO 15 PER CENT MOISTURE BY THE USE OF A CONVENTIONAL
AGGREGATE DRYER THIS DRYER ACCORDING TO TESTS CONDUCTED BY
THE DRYER MANUFACTURER THE DRYING WILL NOT PRODUCE DUST SHIPMENT
OF THIS MATERIAL MUST COMMENCE JUNE 26TH TO COMPLY WITH CONTRACT
EXECUTED BETWEEN COTTER CORP AND COMMERCIAL DISCOUNT CORP

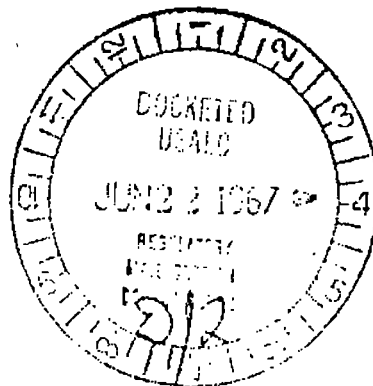
RICHARD L CHAMPLIN ASST VICEPRESIDENT COMMERCIAL DISCOUNT
CORP 105 WEST ADAMS ST CHICAGO ILL 60603
(02).

206P

USAEC HQS GTW

//R2#

TWX NR 994



USAEC HQS GTW

TLX057

TLX060 (12)SYR110 S-051

S LLK118

EUST THIS

EUST THIS

//R2#

Commercial Discount
Chicago, Illinois 60603

Richard L. Hamplin

Harmon

adv. w/ regard to material
and their a pl. for amend....

DATE OF DOCUMENT

6-22-67

DATE RECEIVED

6-22-67

NO.

2070

OTHER

17A

1

2cc

10-7603

Subsidiary
w/ file cy.
1-compliance cy.

File charged to Subsidiary

1 cy. advanced to MacDonald

1. 1-271 cy.

DO NOT REMOVE

MAIL CONTROL FORM

USAEC HQS CTWN

//574

TX NR 994

USAEC HQS CTWN

TLX057

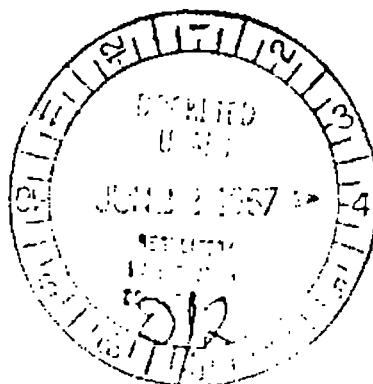
TLX060 (12)CYP110 SP051

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//PB#



6/21/67

D/7

00 11 14

WPL:WPL

40-7003

WPL-107, Amendment 10. 1.

Commercial Patent Corporation
100 N. Dearborn St.
Chicago, Illinois 60603

Attention: Mr. Robert L. Monahan
Vice President and General Counsel

Gentlemen:

As requested in your letter of December 12, 1969, the expiration date of WPL Source Material License No. 83-107 is hereby extended until March 31, 1970. All other conditions of said license shall remain the same.

Very truly yours,

Don W. Harmon
Source Material Specialist
Materials Branch
Division of Materials Research

DISTRIBUTION:
PDR
State Health
Pocket file
Branch P/I
Division P/F
Harmon's P/F
CO, Region III
N. Douglas, W/L, w/s cys

9207100082 911016
PDR FOIA
MCCLUSK91-356 PDR

| | |
|---------|--------------|
| OFFICE | DML |
| SURNAME | DEHarmon/dmh |
| DATE | 12/19/69 |

D/17

COMMERCIAL DISCOUNT CORPORATION

February 12, 1970

Mr. Don F. Harmon
Source & Special Nuclear
Materials Branch
Division of Materials Licensing
Atomic Energy Commission
Washington, D. C.

RE: S.M.C.-907
Docket No. 40-7603

Regulatory File Cy.

Dear Mr. Harmon:

Your December 19, 1969 letter advised us that our license had been extended to March 31, 1970. Cotter Corporation, P. O. Box 1000, Roswell, New Mexico, has now advised us that a license (No. SUB-1022) has now been issued to them for the drying and shipping of the materials covered by our license.

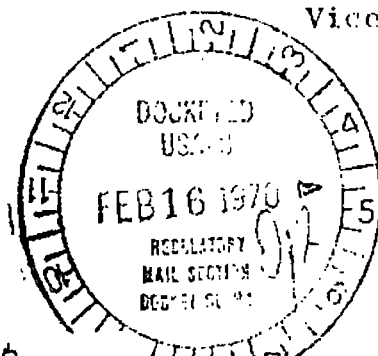
Please advise us what action, if any, is required of us with respect to terminating our privileges and our obligations.

Very truly yours,

COMMERCIAL DISCOUNT CORPORATION

Robert E. Stoneberg
Vice President and General Counsel

RES:vs



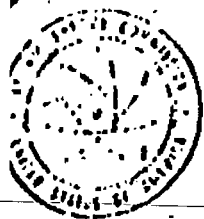
HC 29401
(9-66)

INTERMEDIATE ACTION FORM

Source & SNM License

| | | | | |
|--------------------------------------|-------------|---------|-------------|-----------|
| 1. FILE NO. | 2. CASE NO. | 3. DATE | 4. ACTION | 5. SOURCE |
| 62 | 40-7603 | 4/83 | termination | 4/83 |
| 6. NAME OF PARTY | | | | |
| Commercial Discount Corporation | | | | |
| 7. ADDRESS | | | | |
| 105 W. Adams Street | | | | |
| 8. CITY | | | | |
| Chicago | | | | |
| 9. STATE | | | | |
| ILL | | | | |
| 10. ZIP CODE | | | | |
| 60603 | | | | |
| 11. DATE OF ACTION | | | | |
| 70 02 17 | | | | |
| 12. DESCRIPTION OF ACTION | | | | |
| (1 cy. rec'd.) | | | | |
| Ltr. req. termination of HC-007..... | | | | |
| 13. CYCLES | | | | |
| 1-300 cy. | | | | |
| 1-compliance cy. | | | | |
| 14. INTERMEDIATE ACTIONS | | | | |
| TYPE | YR | MO | DA | FILE NO. |
| ADJUDICATED | | | | |
| RECEIVED | | | | 1 |
| FROM SOURCE | | | | |
| RECEIVED | | | | 2 |
| TO: | | | | |
| RECEIVED | | | | |
| TO: | | | | |
| 15. OTHER REFERRALS | | | | |
| Fussbaumer | | | | |
| w/file cy. 1118 | | | | |
| 70 02 17 | | | | |
| DO NOT REMOVE | | | | |
| ACKNOWLEDGED | | | | |

D/18



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

NOV 13 1974

11/17
RECEIVED

NOV 18 1974

E. J. McGRATH

L:FERB:UTC
40-8035
SUB-1022

Cotter Corporation
ATTN: Mr. David P. Marcott
Executive Vice President
P. O. Box 356
Golden, Colorado 80401

Gentlemen:

In accordance with your application dated May 10, 1974 and pursuant to Title 10, Code of Federal Regulations, Part 40, Source Material License No. SUB-1022, is hereby terminated.

FOR THE ATOMIC ENERGY COMMISSION

L. C. Rouse

L. C. Rouse, Chief
Fuel Fabrication and Reprocessing
Branch No. 1
Directorate of Licensing

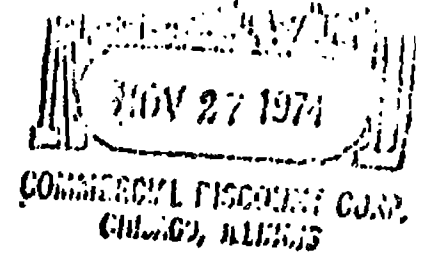
*For
Rouse*

A16

LAW OFFICE
EDWARD J. McGRATH
201 NORTH FIDELITY AVENUE
GAITHERSBURG, MARYLAND 20760

(301) 940-2400

November 19, 1974



R. E. Stoneberg, Esquire
Commercial Discount Corporation
105 W. Adams Street
Chicago, Illinois 60603

Re: A.E.C. license No. SUB1022

Dear Bob:

Pursuant to our telephone conversation, we enclose a copy of the A.E.C. notice cancellation of the license held by Cotter Corporation in connection with storage of the residues located at Latty Avenue Storage Site in Hazelwood, Missouri.

With the issuance of this notice, all actions necessary to be performed in connection with clean up of the property by Cotter Corporation have been completed.

With best regards,

Sincerely yours,

A handwritten signature in dark ink, appearing to be "E. McGrath", written in a cursive style.

Edward J. McGrath

EJMcG:les

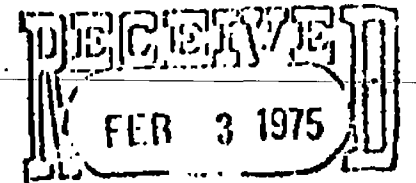
Enclosure

cc David P. Marcott, Executive Vice-President



COTTER Corporation

DIAL BOX 1111
POST OFFICE BOX 1111
GOLDEN, COLORADO 80401



COMMERCIAL DISCOUNT CORP.
CHICAGO, ILLINOIS

Mr. Robert E. Stoneberg
Vice President and General Counsel
Commercial Discount Corporation
55 E. Monroe Street
Chicago, Illinois 60603

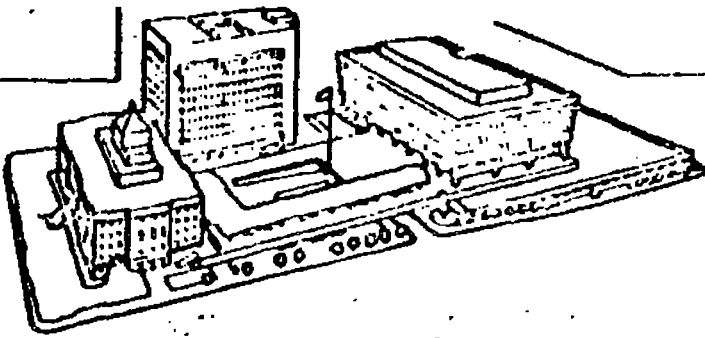
Dear Mr. Stoneberg:

This is to certify that as of November 13, 1974, the date of cancellation of the A.E.C. license pertaining to the Latty Avenue storage site, Cotter Corporation has removed all of its personal property from the real estate, located at 9200 Latty Avenue, Hazelwood, Missouri, and from the adjoining land, referred to in the ground lease entered into on the 22nd day of February, 1967, and in accordance with that lease and the Agreement between us dated August 7, 1969, we have removed all contaminated substances and earth from the premises and decontaminated and restored the premises so that the same may be hereafter used as normal land with no restrictions on future use deriving from operations under the license. Cotter Corporation has complied with all applicable rules and regulations of the Atomic Energy Commission and all other public authorities having jurisdiction and has fully performed the Agreement of August 7, 1969.

COTTER CORPORATION

By David P. Munn
Executive Vice President

Dated Jan 30, 1975



ST. LOUIS COUNTY, MISSOURI
GENE McNARY, SUPERVISOR

**DEPARTMENT OF COMMUNITY
HEALTH AND MEDICAL CARE**
WILLIAM C. BANTON, II, M.D., M.P.H.
DIRECTOR

TO: Mr. H. Clifford Mitchell
Associate Director

FROM: Mr. John Spell, Dr. Wayne Black, Mr. Charles Wildt

SUBJECT: Radiation levels at a site near Lambert Airport

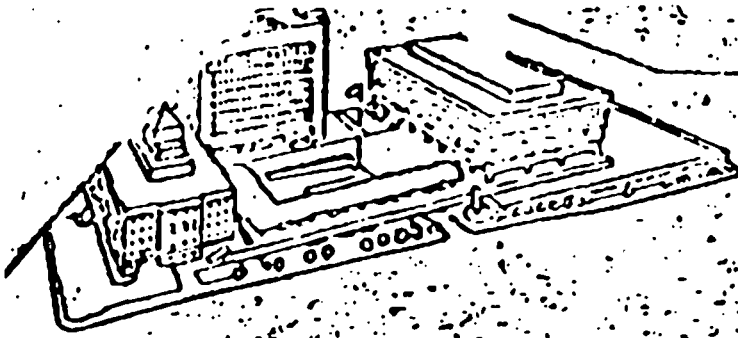
DATE: May 11, 1976

On May 10, 1976 a radiological survey was conducted for possible radiation contamination at a site near Lambert Airport. The site is bounded by Cold Water Creek, Brown Road and the Norfolk and Western Railroad Tracks.

The entire area was surveyed and radiation was detected at only two location in the area which measured 0.5 millirems per hour at ground level. The size of these locations was approximately fifteen feet in diameter.

No measurable radiation over the normal ambient levels was detected above the ground or at the perimeters of the site. Detectable ambient radiation levels were 0.02 to 0.04 millirems per hour.

cc: Spell
Black

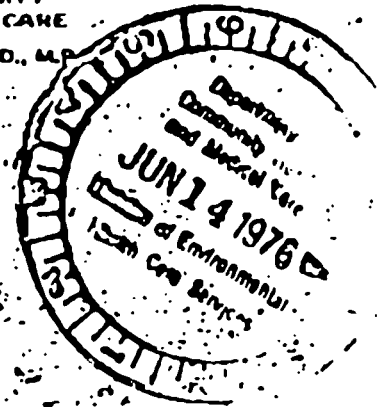


ST. LOUIS COUNTY, MISSOURI
GENE McNARY, SUPERVISOR

DEPARTMENT OF COMMUNITY
HEALTH AND MEDICAL CARE

WILLIAM C. BANTON, II, M.D., M.P.H.
DIRECTOR

June 11, 1976



Mr. S. C. Gesko, Jr.
City Administrator
City of Bridgeton
11955 Natural Bridge Road
Bridgeton, Missouri 63044

Dear Mr. Gesko:

Thank you for your letter of June 7, 1976, concerning the handling and disposition of certain radioactive materials at Westlake Quarry. We have been aware for several years of the storage of radioactive wastes near Lambert Field. Surveys and tests conducted by the Atomic Energy Commission and staff members of this department in 1966, 1967, and 1976 have not revealed any level of radiation which could be considered harmful or pose a public health problem.

It has been only recently that we were made aware of the apparent disposal of some radioactive waste material at the Westlake Quarry landfill in 1973. It is my understanding that the waste material contained only minute amounts of uranium and is well below the level which would require special handling as set forth by federal regulations. Also, since this material was dumped in 1973, it is undoubtedly covered by many feet of dirt and debris at this point in time. Based on our present information, we are certain that this waste material does not pose any threat or health hazard to the residents of your community and surrounding area.

If I can be of any further help, please let me know.

Sincerely,

William C. Banton, II, M.D., M.P.H.
Director, Department of Community
Health and Medical Care

WCB:bc

cc: H.C. Mitchell
Dr. Wayne Black

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III

789 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

JUN 11 1976

Cottar Corporation
ATTN: Mr. David F. Marcott
P. O. Box 356
Golden, Colorado 80401

License No. SUB-1022

Gentlemen:

Copies of reports of previous inspections conducted on April 10 and 24, 1974 and November 17, 1970 of your activities authorized by NRC Source Material License No. SUB-1022, are enclosed for your review.

Recently, we have received requests for information contained in these reports. Consequently, we plan to put the reports in the Public Document Room.

Please review the attached documents for proprietary information. If they contain any information that you believe to be proprietary, it is necessary for you to make a written application to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons for which it is claimed that the information is proprietary, and should be prepared so that the proprietary information identified in the application is contained in a separate part of the document. We will appreciate your prompt response to this matter.

Sincerely yours,

James M. Allan, Chief
Fuel Facility and
Materials Safety Branch

Attachment:
As stated

bcc w/attach:
Central Files
PDR
NSIC
IE Mail and File Unit



A/7



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

NOV 1 1974

Cotter Corporation
ATTN: Mr. David P. Marcott
Executive Vice President }
P. O. Box 356
Golden, Colorado 80401

Gentlemen:

This refers to the inspection conducted by Mr. W. B. Grant of our Region III Office on April 10 and 24, 1974, at your Hazelwood, Missouri site and on April 23, 1974, at your Canon City, Colorado Office of activities authorized by AEC Source Material License No. SUB-1022. Reference is also made to the discussions of our findings with you by Mr. Grant on April 26, 1974.

The inspection was an examination of the decommissioning operations at the Hazelwood, Missouri site and consisted of interviews with personnel of B-K Construction Company; consultants of Ryckman, Elderly, Tomlinson and Associates; and, an examination of records at the Canon City, Colorado Office.

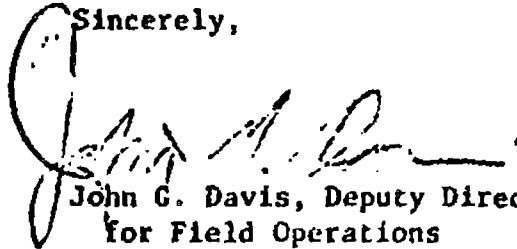
The inspection findings showed that during the period of July - October 1973, about 8700 tons of leached barium sulfate containing about seven tons or averaging about 0.08% natural uranium was scooped up for disposal with approximately 39,000 tons of soil, and the resulting uranium concentration was about .0001%. It is our understanding from your contractor that the material was then deposited under about 100 feet of refuse and earth at St. Louis, Missouri County sanitary landfill area No. 1.

The disposal does not appear to be within the intent of the Commission's regulation, 10 CFR Part 40, to allow alteration of the physical nature of Source material (i.e. dilution of solids with nonradioactive source material) in order to obtain a physical mixture which would no longer be subjected to licensing by the Commission.

NOV 1 1974

We have been advised that the Directorate of Licensing is in receipt of your request for license termination, which included the results of the radiation surveys performed at the Hazelwood site. You will receive separate correspondence concerning that request from the Directorate of Licensing.

Sincerely,



John G. Davis, Deputy Director
for Field Operations
Directorate of Regulatory Operations



UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION III

799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TELEPHONE
(312) 856-2860

A. RO Inspection Report No. 040-8035/74-01

Transmittal Date : May 17, 1974

Distribution:
RO Chief, FS&EB
RO:HQ (5)
DR Central Files
Regulatory Standards (3)
Licensing (13)
RO Files

Distribution:
RO Chief, FS&EB
RO:HQ (4)
L:D/D for Fuels & Materials
DR Central Files
RO Files

B. RO Inquiry Report No. _____

Transmittal Date : _____

Distribution:
RO Chief, FS&EB
RO:HQ (5)
DR Central Files
Regulatory Standards (3)
Licensing (13)
RO Files

Distribution:
RO Chief, FS&EB
RO:HQ
DR Central Files
RO Files

C. Incident Notification From: _____

(Licensee & Docket No. (or License No.)

Transmittal Date : _____

Distribution:
RO Chief, FS&EB
RO:HQ (4)
Licensing (4)
DR Central Files
RO Files

Distribution:
RO Chief, FS&EB
RO:HQ (4)
L:D/D for Fuels & Materials
DR Central Files
RO Files

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS

REGION III

RO Inspection Report No. 040-8035/74-01

Licensee: Cotter Corporation
P. O. Box 356
Golden, Colorado 80401

9200 Latty Avenue
Hazelwood, Missouri

License No. SUB-1022
Category: E
Priority: 3

Type of Licensee: Uranium ore residue storage and shipment

Type of Inspection: Announced, Reinspection

Dates of Inspection: April 10 and 21-24, 1974

Date of Previous Inspection: November 17, 1970

Principal Inspector: *W. B. Grant*
W. B. Grant

5-16-74
(Date)

Accompanying Inspectors: None

Other Accompanying Personnel: None

Reviewed By: *C. E. Norelius*
C. E. Norelius
Senior Health Physicist
Materials Radiological
Protection Section

5-16-74
(Date)

SUMMARY OF FINDINGS

Enforcement Action

Contrary to the requirements of 10 CFR 20.301, disposal of licensed material made from July 31, 1973 through October 12, 1973, was in a manner not authorized. (Paragraph 4)

Licensee Action on Previously Identified Enforcement Items

During the last inspection on November 17, 1970, the licensee was cited for the following:

Contrary to 10 CFR 20.201(b), air sample surveys were inadequate to determine concentrations of airborne uranium ore materials to which persons were exposed during drying and loading operations at the Hazelwood, Missouri facility.

The drying operation ceased shortly after the inspection during which the violation was noted. A licensee representative stated that air samples were not taken while loading the remainder of the ore since it contained approximately 40% water and created practically no dust.

Unusual Occurrences

None.

Other Significant Findings

None.

Management Interview

Subsequent to the inspection, Mr. David P. Marcott, Executive Vice President and General Manager, Cotter Corporation, was contacted by telephone and given the results of the inspection. The apparent disposal of licensed source material in a manner not authorized was discussed as was the licensee's determination that the uranium content of residue ore was reduced to a non licensable percentage by the addition of quantities of soil.

REPORT DETAILS

1. Persons Contacted

David P. Marcott, Executive Vice President, Cotter Corporation
Phillip Feeney, Project Engineer, Ryckman, Edgerley, Tomlinson,
and Associates, St. Louis, Missouri
Warren Goff, Cotter Corporation, Health and Safety
John Fontecchio, Plant Accounting, Cotter Corporation
Bob Davis, B&K Construction Company, St. Louis, Missouri

Mr. Kenneth Miller, State of Missouri Bureau of Radiological
and Occupational Health was informed of the inspection on
April 2, 1974. No representative of that agency was present
during the inspection.

2. General-Background Information

In early 1966, the Continental Mining and Milling Company, Chicago, Illinois, purchased from the AEC (Bid No. AT-(23-2)-52), ore residues which were stored at the St. Louis Airport. The material was moved from that site during 1966 to the 9200 Latty Avenue, Hazelwood, Missouri site. Continental Mining and Milling possessed License No. SMA-862 for this program. In January 1967, the Commercial Discount Corporation of Chicago, Illinois, took physical possession of the Continental Mining and Milling Company facilities and source material stockpile. License No. SMC-907 was issued to Commercial Discount Corporation on December 29, 1966, allowing possession of the residues, removal of moisture, and shipment to the Cotter Corporation facilities in Canon City, Colorado. In December 1969, the remaining source material was sold to Cotter Corporation who obtained License No. SUB-1022. The Commission's invitation to Bid No. AT-(23-2)-52 dated January 10, 1964, listed the following residues: 74,000 tons of Belgian Congo Pitchblend Raffinate containing about 113 tons of uranium; 32,500 tons of Colorado Raffinate containing about 48 tons of uranium; 1500 tons of barium sulfate cake (unleached) containing about 22 tons of barium sulfate cake (leached) containing about 7 tons of uranium; and approximately 350 tons of miscellaneous residues containing about 2 tons of uranium.

RO:III inspected this licensed program on November 17, 1970. At that time, the licensee was in the process of drying and shipping residues to the Colorado facility. One violation, as described earlier in this report, was noted.

3. Organization and Administrative Control

Mr. David P. Marcott is Executive Vice President and General Manager of Cotter Corporation. The corporation moved its home office to P. O. Box 356, Golden, Colorado, in 1972. The licensee has an agreement with B&K Construction Company, St. Louis, to maintain control over the site and to remove material in accordance with direction from the licensee. The licensee has also contracted a consultant firm Ryckman, Edgerley, Tomlinson, and Associates of St. Louis, to handle the health physics and decontamination of the Hazelwood site.

4. Program

In August 1970, Cotter Corporation began drying and shipping the remaining residues from the St. Louis site, to their mill in Canon City, Colorado, at the rate of about 400 dry tons of material per day. This operation which was performed for Cotter by B&K Construction Company continued until about November 1970 when problems with the dryer, used to reduce the moisture content of the ore caused a halt in activities.

According to reports, records, and interviews with licensee representatives all of the remaining residues were shipped during the August to November period with the exception of approximately 10,000 tons of Colorado raffinate and 8700 tons of leached barium sulfate.

B&K Construction Company representative stated that his original instructions from Cotter Corporation were to load and ship the piles of ore residue according to location and color. He said the residues were distinctly different in color and the yellowish Congo raffinate plus the Colorado raffinate (reddish) were shipped as instructed to Canon City. The leached barium sulfate (whitish) was not shipped.

According to licensee representatives, the site remained unoccupied until mid 1973 when the remaining Colorado raffinate was shipped to Canon City without drying. The only residue then remaining at the site was the 8700 tons of leached barium sulfate. Records maintained by Cotter Corporation showed that this material contained from 0.05% to 0.1% or approximately 7 tons of uranium as U₃O₈. Licensee representatives stated, and records of invoices paid to B&K Construction Company show, that this material along with approximately 38,000 to 39,000 tons of soil removed from the top

12 to 18 inches of the Latty Avenue site was disposed of in St. Louis County sanitary land fill area No. 1 on Old Bridge Road over the period July 31 through October 12, 1973. Based on this information, the licensee is in violation of 10 CFR 20.301 "Waste Disposal, General Requirement" in that he disposed of licensed material in a manner not authorized.

A B&K Construction Company representative said that, as directed by Cotter Corporation, the barium sulfate cake material was spread over a considerable portion of the site and then removed along with the top soil. He added that he thought that this was done to reduce the weight, as the cake material was very heavy and he did not want to fill a truck with only this material.

This material was hauled to the land fill area and used as cover for part of the several hundred truckloads of garbage and refuse that are shipped to the land fill area site every week. The licensee estimates that the barium sulfate is probably buried under 100 feet of garbage at this time. The trucks were hosed out after hauling this material.

5. Facilities and Equipment

The plot of ground known as 9200 Latty Avenue, Hazelwood, Missouri consists of a 3.5 acre plot on which four buildings are located and a 7.5 acre plot which was used for the storage of the ore residues. The larger plot is leased from the Norfolk and Western Railway Company which also has a spur line adjacent to the licensee's facility. One building, used formerly as the office and living quarters, is completely boarded up. The other three are empty and in a bad state of repair.

All the loading and drying equipment was said to have been hosed down after completion of the operation. It was either in storage at B&K Construction Company's yard, St. Ann, Missouri or had been sent to Canon City, Colorado. The residue piles appeared to have been removed and the ground returned to at or near its original level. Radioactive Material signs were noted to be in place along the fence line but the gates were open and some of the fence line had been knocked down.

6. Surveys

Representatives of the licensee stated that no surveys or assays of the material removed were made. It was segregated through location

~~was done only.~~ The only surveys were those made of the remaining land surface to determine if it read less than 0.6 mr/hr at the surface as measured by a thin (1.4 mg/cm²) end window GM instrument. A representative of Ryckman, Edgerley, Tomlinson, and Associates stated that if the survey showed 0.6 mr/hr or less, no further removal of soil was done. If it was higher, soil was removed until the radiation was 0.6 mr/hr or less. He added that B&K Construction removed the top 12-18 inches of the site and in most cases, backfilled to the original level before any surveys were made. He said only one small 10 foot by 10 foot area was found above 0.6 mr/hr and that the rest of the area averaged less than 0.1 mr/hr.

VIOLATION CODING DATA WORK SHEET
(See PI 1200/13, Attachment E for coding instructions)

Center Corp

Licensee

Facility

S41B-1022

License No./Docket No.

1/10, 23, 24/74

Inspection Date

WB C. A. H.

Inspector

7401

Report No.

The coding data for violations identified during the above inspection are as follows:

(NOTE: Code each violation, listing in the same order as shown on the enclosure to the letter to the licensee.)

| | Requirements Code | | | Cause Code | Procedures Code |
|-----|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| 1. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Instructions: For each inspection which identifies violations, forward this Work Sheet to the Administrative Officer when the inspection documentation is submitted for typing.

December 4, 1970

| | | |
|--|-----|--------------------|
| | BMG | IVEV |
| | JMA | <i>[Signature]</i> |
| | GPC | |
| | GF | PTS |
| | GAP | BTC |
| | HDT | FILE |

Cotter Corporation
P. O. Box 1000
Roswell, New Mexico 88201

Attention: Donald P. Marcott, Executive
Vice President and General
Manager

Gentlemen:

This letter relates to the discussion Mr. Ashley of this office hold with you at the conclusion of the recent inspection. In particular, you were informed that certain of your licensed activities appear to be in noncompliance with AEC requirements. The item and references to the pertinent requirements are listed in paragraph 5 of the attached Form AEC-592.

The purpose of this letter is to give you an opportunity to advise us in writing of your position concerning the item and of any corrective steps you have taken or plan to take with respect to this item. The date that all corrective action has been or will be completed should be included. Your reply should be sent to us within 20 days of the date of this letter to assure that it will receive proper attention in our further evaluation of the matter.

9102040754 2pp.

| | | | | | | |
|---------|---------------------------------|-----------------------------|--------------------------|--|--|--------------------|
| OFFICE | CO: III | CO: III | CO: III | | | |
| SURNAME | <i>[Signature]</i> Ashley/jg | <i>[Signature]</i> Alvan | Grier <i>[Signature]</i> | | | <i>[Signature]</i> |
| DATE | 12-4-70 | 12-4-70 | 12-4-70 | | | |

December 4, 1970

Should you have any questions concerning this matter, you may communicate directly with this office.

Sincerely yours,

Boyce H. Grier
Regional Director

Enclosure:
Form AEC-592

cc: E. Edgerley, Jr.
Lyckman, Edgerley,
Tomlinson and Associates

bc: G. W. Roy, CO:HQ - w/592(2) & Inspec. Notes
A. Giambusso, CO:HQ - w/592 & Evaluation
L. Kornblith, CO:HQ - w/592 & Evaluation
R. H. Engelken, CO:HQ - w/592 & Evaluation

OFFICE ▶

SURNAME ▶

DATE ▶

UNITED STATES ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE

E III 2. 500

| | |
|--|---|
| 1. LICENSEE Cotter Corporation P. O. Box 1009 Roswell, New Mexico 88201 <i>(Hazelwood, Missouri)</i> | 2. REGIONAL OFFICE U. S. Atomic Energy Commission Region III, Division of Compliance 799 Roosevelt Road Glen Ellyn, Illinois 60137 |
| 3. LICENSE NUMBER SUB-1022 (40-8035) | 4. DATE(S) OF INSPECTION November 17, 1970 |

5 The following activities under your license (identified in Item No. 3 above) appear to be in noncompliance with AEC regulations or license requirements, as indicated.

Contrary to 10 CFR 20.201(b), "Surveys," air sample surveys were inadequate to determine concentrations of airborne uranium ore materials to which persons were exposed during drying and loading operations at the Hazelwood, Missouri facility.

9102080259 11pp.

Supplementary page None attached.

Edgar C. Ashley
Edgar C. Ashley
 AEC Compliance Inspector

12-4-70

Date

ORIGINAL: LICENSEE.

COPIES: ☐ CO REGION ☐ CO HEADQUARTERS ☐ LAR HEADQUARTERS.

REPORT COMPILED SHEET

Identifying Information

Type Report (circle)
591 592

1. Licensee Cotter Corporation
2. Address P.O. Box 1000
ROSWELL, NEW MEXICO 88201
(HAZELWOOD MISSOURI)
3. License No(s) SUB-1022 (40-8035)
4. Date of Inspection November 17, 1970
5. Inspector E. C. Ashley
6. Status of Compliance Noncompliance

Items of Noncompliance

7. Section of Regulation
or
License Condition

Details Paragraph

- A. 10 CFR 20.201(b)
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____

- A. 28
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____

Classified Information

8. This report contains classified or business confidential information.
Yes ☐ No ☒

E. C. Ashley
Inspector

J. McLean
Reviewer

12-1-70
Date

Date

DETAILS

GENERAL INFORMATION

9. This was an announced inspection of this source material licensed program conducted on November 17, 1970. Mr. David P. Marcott, Executive Vice President and General Manager, Cotter Corporation, was notified of this forthcoming inspection by telephone on November 4, 1970.
10. Dr. E. A. Fulgrabe, State of Missouri Department of Health, was notified of this forthcoming inspection on November 10, 1970. The inspector was unaccompanied.
11. Mr. Charles Brokaw, an employee of the B&K Construction Company, St. Ann, Missouri, was interviewed during this inspection of the licensee's source material facilities located at 9200 Latty Avenue, Hazelwood, Missouri. Mr. Brokaw represents the Cotter Corporation at this Hazelwood, Missouri, site, and has the title of Superintendent. Also interviewed during the inspection was Mr. Phillip Feeney, a member of the consultant firm of Ryckman Edgerley, Tomlinson, and Associates. This consultant firm has been contracted to perform the health physics activities for the licensee.

INSPECTION HISTORY

12. In the spring of 1966, the Continental Mining and Milling Company, Chicago, Illinois, purchased from the AEC ore residues which were then stored at the St. Louis Airport. Movement of this material from that site began on or about May 1, 1966, to the 9200 Latty

- Cotter Corporation
13. In January 1967, the Commercial Discount Corporation of Chicago, Illinois, took physical possession of the Continental Mining and Milling Company facilities and source material stockpile. These facilities and materials were repossessed by Commercial Discount Corporation who had acquired a license to cover storage only of this material. License No. SMC-907 was issued to Commercial Discount Corporation on December 29, 1966. On June 28, 1967, License No. SMC-907 was amended to allow the removal of moisture and shipment of the source material from the Hazelwood, Missouri, facility, to the Cotter Corporation facilities in Canon City, Colorado. This operation was conducted by Commercial Discount Corporation on and off during 1967 and 1968. It was learned that during that time, approximately 47,000 "wet tons" had been shipped to the Cotter Corporation so far, and that as of May 1969, approximately 30,000 "dry tons" of the material remained, according to Commercial Discount Corporation representatives. A visit to the Hazelwood, Missouri, site, was made by Region III in April 1970. At that time, the facility was at a complete standstill and only security guards were onhand and advised that no work had been done at that site during 1969.
14. The remaining source material was sold to the Cotter Corporation of Roswell, New Mexico, in December 1969. For this program, the Cotter Corporation obtained License No. SUB-1022.
15. An inspection of the source material program as conducted by Cotter Corporation was conducted on November 17, 1970, and is the subject of this report. All information contained in this report is presented in substance unless otherwise indicated.

PROGRAM

16. This licensed program is essentially the same which was conducted by the Commercial Discount Corporation. The use of a drying method is used because of the high cost of shipping the wet source material to Colorado. Mr. Brokaw advised that only 50% of the water content

approximately 80% water of the total weight and is removed down to approximately 40% when being shipped. The different types of material being handled at this site include C-slag, unleached barium sulfate, barium sulfate cake, and Colorado raffinates. During this inspection, it was learned that the Colorado raffinates were being dried and shipped at the present time.

17. According to Mr. Brokaw, the normal full day's work usually yields between 350 and 450 "dry tons" which fills between five and six open top coal cars. This current program began August 13, 1970, and according to the licensee's records, materials have been shipped on approximately 50 days since that time. The average quantity of material per day has been approximately 400 tons. In addition to this material, 107 barrels of materials have been shipped to the Colorado facility of Cotter.

ORGANIZATION AND ADMINISTRATIVE CONTROL

18. Cotter Corporation has its home office in Roswell, New Mexico. The source material from the Hazelwood, Missouri, facility, is being shipped to the Cotter Corporation's uranium processing facilities located in Canon City, Colorado. The licensee has a working agreement with the B&K Construction Company of St. Ann, Missouri, to handle all of the materials under this license in Hazelwood. The B&K Construction Company maintains control over the Hazelwood site and is assisted in this function by off-duty policemen serving as security guards. This security guard force is in effect seven days a week, 24 hours a day. At the same time, the licensee has contracted a consultant firm, Ryckman, Edgerley, Tomlinson, and Associates, of St. Louis, Missouri, to handle the health physics activities of this Hazelwood program.

FACILITIES AND EQUIPMENT

19. It was noted that the same facilities and equipment were being used as were noted during the previous inspections of this program. A Norfolk and Western Railway Company industrial map indicates the licensee's facilities are located on a 3.5 acre plot of ground and 7.5 acres which have been leased from the Norfolk and Western Railway Company. This plot of ground is located at 9200 Latty Avenue, Hazelwood, Missouri. At this location, Latty Avenue dead ends at the Cold Water Creek. A spur line from the Norfolk and Western Railway Company bounds the licensee's facility on the west between the licensee's facility and Cold Water Creek. The buildings of the licensee's facility are located on that 3.5 acre plot while the source material is stored on the 7.5 acre lot, which has been leased from the Norfolk and Western Railway Company.
20. The licensee utilizes four buildings. One of these buildings is a permanent flat topped three room building located on the north portion of the site. This building is used as an office building and part-time living quarters and is located outside of the fenced-in area. Directly south of the office building is a metal fabricated building used primarily as equipment and vehicle storage. This building is located within the fenced and restricted area with the north edge of the building being a portion of the fence line. Located to the southeast of the office building, to the northeast of the storage building, is a smaller metal building used for miscellaneous storage and locker room and shower facilities for employees. This particular smaller building is located outside the fenced area with the south and east walls of the building being a portion of the fence line. Directly to the south of the vehicle storage building is a very large building (about four times larger than the vehicle storage building). It is within this building that the licensee performs the drying operation. During this inspection, the licensee's consultant firm

supplied a sketch of the property showing the four buildings, the railroad spur, and the source material storage areas. A copy of this sketch is attached to this report as Exhibit A.

21. The drying equipment consists of three main parts. They are the natural gas Barber-Greene Model 838 dryer, a Barber-Greene Model 858 dust collector, and a Model CN-70 wet scrubber utilizing a recirculated water system. The licensee has dug two large holes directly south of the drying operation. One of these holes is lined with a plastic sheet and is used as a settling pond for the freshly scrubbed drying exhaust. A small trench connects this settling pond with a second pond from which water is drawn and recirculated through the system.
22. Other equipment utilized by the licensee are various pieces of earth-moving equipment.

PROCEDURES

23. A load of the source material is brought into the large building in one of the earth movers where the material is gravity fed onto a conveyor belt and is transferred to the top of the drying unit. The material is allowed to enter a large inclined rotating cylinder and as it falls down and into the inside of the cylinder, the material is dried. When the material reaches the lower end of this rotating cylinder, it is picked up by another conveyor and brought outside of the building on the southwest corner and loaded into open topped railroad cars. Barring any unforeseen interruptions, this is a continuous operation from the time the loader vehicle brings the material into the building and the dry material is put into the cars. The approximately particle size of the newly dried material appears to be somewhat like sand or cinders. When a railroad car has been filled, the material is sprayed with a plastic known as Aerospray 52 Binder which is a water emulsion of a synthetic resin. This spray is to prevent dusting during transport.

POSTING AND LABELLING

24. The licensee has numerous signs posted throughout the area including on the material piles themselves and at several locations on the fence surrounding the entire area. Each of the signs showed the conventional radiation symbol in colors of magenta on yellow and either "Caution, Radioactive Material," or "Caution, Radiation Area."
25. A Form AEC-3, "Notice to Employers," was posted in the office building and in the locker and shower room area.

PERSONNEL MONITORING AND SURVEYS

26. The B&K Construction Company has employed a total of nine persons for this operation. In addition to Mr. Brokaw, the Superintendent, there is one mechanic, four operation engineers, and three laborers. All nine persons are assigned an R. S. Landauer film badge. The film badges are exchanged weekly. A review of the R. S. Landauer film badge reports for nine film badge periods between the end of August and the end of October showed the maximum exposure received by any one person as indicated by the film badge to be 110 millirem. The other film badge results ranged from minimal to 80 millirem for that period.
27. According to Mr. Brokaw, all persons are required to change their clothes daily after working with the source material. Also, respirators are required for three of the persons, namely, the car loader, the pit cleaner, and the person who is assigned to keep the first conveyor clear of rocks. (It was noted that the final conveyor leading to the railroad car was completely covered.)
28. Health physics surveys performed by the licensee's consultant include stream samples, fallout tray samples, radiation level surveys at the fence line, and air sampling of work areas. The maximum downstream

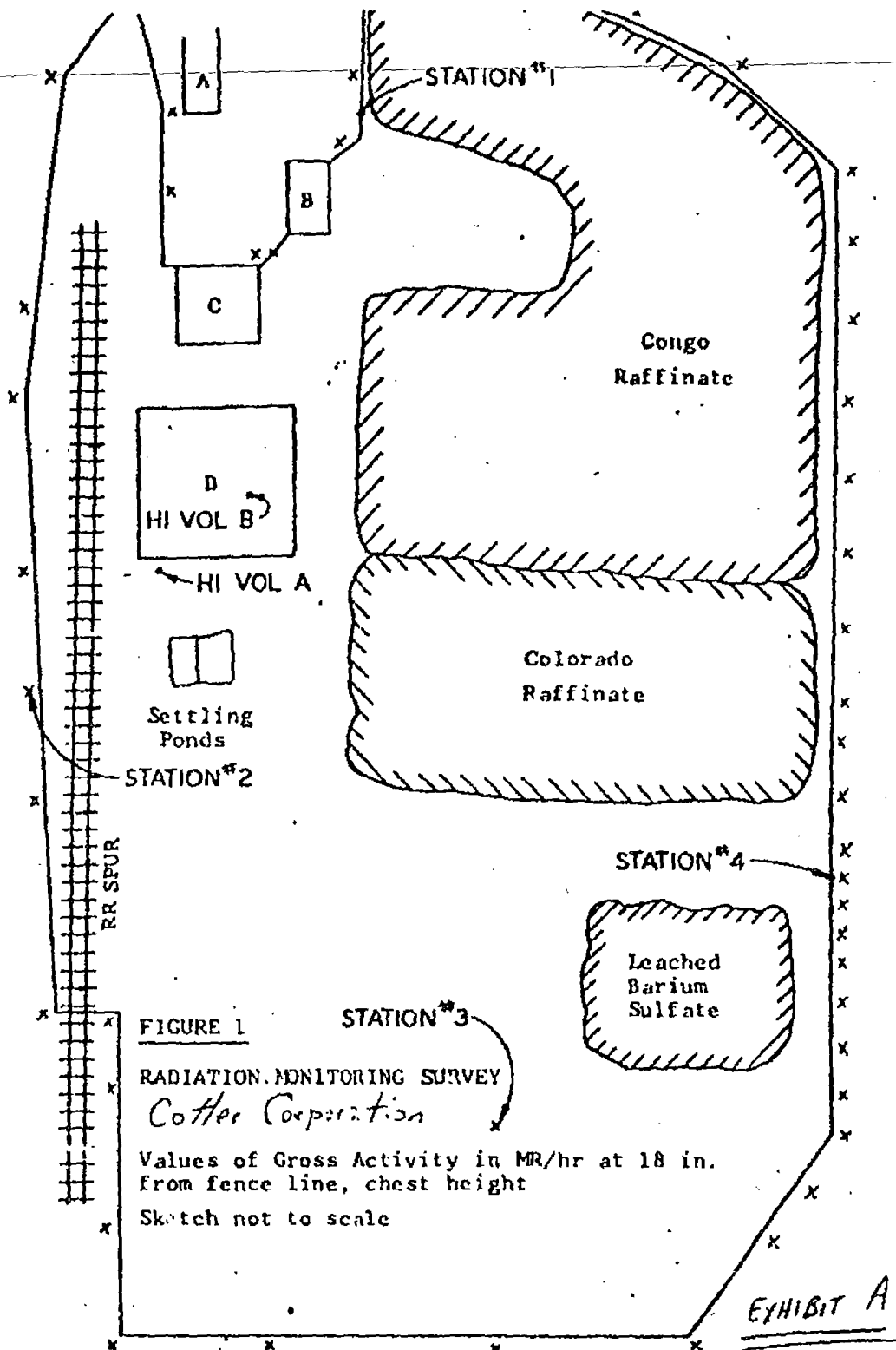
efficiency and 4.4×10^6 dpm/uc for natural uranium, this highest sample result for insoluble uranium shows approximately 4.5×10^{-6} uc/ml. Radiation levels outside the fenced-in area have shown less than 0.6 mr/hr at 18" from the fence. This was confirmed by independent measurements by the AEC representative during the inspection. According to the licensee's consultants, air samples are taken in the working areas during the drying operations using a high vol air sampler. The consultant advised that Wattman filter paper is used for this sampling. Mr. Feeney stated that the air samples and analyses are made in the following manner: A one-hour sample is taken at a rate of 50 cubic feet per minute. The material which is collected on the Wattman filter paper is scraped off and weighed. A slurry is made of this material and plated on a planchet and is counted with a thin window Geiger-Mueller counter and scaler unit. Feeney stated that this counting equipment has a 1% efficiency and that the calibration standard is radium 226. The results of the air samples are reported by the consultant in their survey reports in terms of milligrams/cu. yd. and counts per minute per gram. Both Mr. Feeney and his supervisor, Dr. Edgerley of the consultant firm, were advised that the literature concerning high vol air samplers shows that while using Wattman filter paper, the flow rate which can be expected is between 18 and 25 cu. ft./min. Also, if enough material is collected on the filter paper that it can be scraped off at the end of the sampling period, then it appears that the flow rate would be zero at the end of a sampling time. In addition, it appears that radium 226 would give an erroneous calibration of thin window Geiger-Mueller counter when analyzing for uranium. Based on the above information, the licensee is in noncompliance with 10 CFR 20.201(b) in that air sample surveys have been totally inadequate to determine concentrations of radioactive materials to which persons are exposed pursuant to 10 CFR 20. Some of the data, as reported by

area, 9.18 milligrams/cu. yd. On September 28, 1970, the loading area showed 19.70 milligrams/cu. yd. Mr. Feeney stated that this is milligrams of total material per cubic yard of air. Counting was performed on the September 10 inside shed sample and showed 1183 counts/min per gram.

MANAGEMENT DISCUSSION

29. The results of this inspection were initially discussed with Mr. Charles Brokaw, Superintendent on the site, and with Mr. Phil Feeney Project Engineer with the licensee's consultant firm. Subsequent to the inspection, Mr. David P. Marcott, Executive Vice President and General Manager, Cotter Corporation, and Dr. Edgerley, principal member of the consultant firm, were contacted by telephone and given the results of this inspection. The licensee representatives were advised of the inadequacies of the air sampling and analyses as performed by the consultant firm. Dr. Edgerley stated that the air sampling methods and analyses methods would be modified to comply with 10 CFR 20, such as shorter duration air sampling to prevent clogging of filter paper, counting of the actual filter paper itself, and calibration of the counting equipment with a uranium standard. The results of the air samples would then be reported in terms of uc/ml of air sampled. Mr. Marcott was advised that the licensee may expect to receive further communication regarding the results of this inspection.

Attachment:
Exhibit A



R.E.T.A. 780

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

JUN 17 1976

Mr. Kenneth M. Karch
Director, Division of
Environmental Quality
Missouri Department of
Natural Resources
P. O. Box 1368
Jefferson City, Missouri 65101

License No. SUB-1022

Dear Mr. Karch:

This is in response to your letter dated June 2, 1976, requesting additional information and follow-up action relative to the burial of some seven tons of natural uranium in a St. Louis County landfill in 1973.

The information published in the St. Louis Post-Dispatch on May-30 and June 1, 1976, which was enclosed with your letter of June 2, 1976, is new to this Office and, as you pointed out, conflicts with the information obtained by our inspectors in 1974. Based on this apparent discrepancy, the NRC plans to initiate a full investigation into this matter during the week beginning June 20, 1976. The findings from this investigation, which will be made available to you, will determine the need for further NRC action. At the conclusion of the investigation, all documents relative to this burial will be provided to your Office.

With respect to your June 2, 1976 letter, I would like to clarify one apparent misconception at this time. The Cotter Corporation, which was responsible for this burial, was an AEC licensee --- not an AEC subcontractor. Consequently, the Energy Research and Development Administration has no responsibility with regard to this material. As a former licensee, the NRC will look to Cotter Corporation to correct any safety or environmental related problems identified through our investigation.

Regarding your other request that this office obtain from materials licensees in the State of Missouri records of low level radioactive waste burials under 10 CFR 20.304, I must reiterate that there is no NRC regulation that requires reporting waste burials under 20.304. Therefore, there is no



A/8

Mr. Kenneth M. Karch

- 2 -

JUN 17 1976

basis for such a request to the licensees. If you believe that the NRC's current regulations concerning such burials are inadequate, you may petition the NRC for consideration of a change of the regulations. This rulemaking petition should be submitted under the provisions of 10 CFR 2.802, a copy of which is enclosed.

If you have any questions concerning the above, please let me know.

Sincerely yours,

James G. Keppler
Regional Director

Enclosure:
10 CFR 2.802

cc w/o encl, w/ltr dtd 6/2/76:
R. J. CokeEPA Region VII
M. W. Freivogel, St. Louis Post-Dispatch
D. P. Marcott, Cotter Corporation

bcc w/o encl, w/ltr dtd 6/2/76:
J. G. Davis, Deputy Director
D. Thompson, IE:HQ
L. Rouse, NMSS
S. Schwartz, SLR
J. Fouchard, PA
Central Files
IE Mail and File Unit
PDR
NSIC

Cotter

8/16/71

Jesse - Planning to return to do more thorough survey. I objected. We should first see what the data we now have show.

Jesse will:

1. Prepare a plan of action.
2. Do hazard evaluation
 - a. Lally Avenue
 - b. ~~the~~ Landfill
3. Complete above this week!

Later on 8/16 discussed with Jesse & Tom and then with Jesse and Al the need to do a hazard evaluation based on what we presently know. It's not apparent that they know how to do this!

On 9/9, the hazard evaluation still in done. Jesse out of office - presumably has the landfill draft (which Bruce says was finished on 9/3) with him. Got from Bill Grant a Lally Avenue memo that looks as though ^{it} could have been written the day ^{they} returned from Cotter.

On 9/10, Jesse gave the landfill draft to Marcia for typing.

A19

Cotter -

We have no recourse against Cotter unless they provided false info. in the application for license term. (Tom-gai of termination application.)

More surveys needed.

COTTER - LICENSING CHRONOLOGY

| <u>Date</u> | <u>History</u> |
|-------------|---|
| 12/31/69 | License No. SUB-1022 issued to Cotter Corporation 500,000 lbs. ore residue, 0.3 to 2.0% U as U ₃ O ₈ . No processing. Drying and shipping to Colorado only. |
| 4/28/71 | Letter from Cotter (McGrath) to Hollingsworth, AEC, General Manager asking for authority to dispose of 1000 drums of radioactive waste materials in Weldon Springs, Missouri quarry (AEC). |
| 5/24/71 | Letter to Cotter (McGrath) from Henry A. Novak, AEC, Division of Waste and Scrap Management - questions why not disposal in another site besides Weldon Springs. |
| 6/28/71 | Memo to Files from U. M. Staebler OCM (AEC) concerning meeting with representatives of Cotter (Marcott and McGrath) on June 24, 1971, discussing Cotter's proposed disposal of 15,000 tons of U residues and 1000 drums at Weldon Springs. Agreement to look at problem further. Cotter's proposed based on high cost of commercial burial \$2 million. |
| 6/29/71 | Letter, Commissioner Johnson from Cotter (McGrath) enclosing letters of 5/24 and 4/28 and briefly exploring the problem. |

| <u>Date</u> | <u>History</u> |
|-------------|---|
| 7/9/71 | Memo to Files, from Malaro, AEC Licensing, concerning meeting on 6/24/71 with Marcott and McGrath discussing burial of 10,000 tons low grade residue and 1000 drums containing waste on site (Latty Avenue). AEC would need more supportive information such as Environmental Statement, geology studies, etc. |
| 7/22/71 | Letter to McGrath from Commissioner Johnson informing him that he must deal with AEC Licensing. |
| 7/22/71 | Memo to Staebler (OCM-AEC) from C. L. Henderson (AEC-Assistant Director of Reg for Administration) Re: Meeting on June 27, 1971, with Regulatory Staff and Cotter and McGrath discussing possible onsite burial of radioactive wastes (Latty Avenue). Conclusion - AEC would need information on type of wastes, method of burial and geographical, hydrologica and geochemical conditions at site. |
| 5/10/74 | Letter from McGrath to W. Burkhardt, AEC Licensing, requesting termination of License SUB-1022, includes certificate of disposition and RETA survey of site. |
| 9/12/74 | Letter, McGrath to Burkhardt asking for answer to letter of 5/10/74. |
| 11/13/74 | Letter from Rouse, AEC Licensing, terminating License No. SUB-1022. |

Date

History

4/10-21-24/74

Region III Inspection

5/17/74

Memo to Thornburg, AEC FS&EB from Allan, IE:III transmitting Cotter Inspection Report 040-8035/74-01 which describes the unauthorized disposal of 7 ton U₃O₈ in a land fill area and suggest that Cotter supply an evaluation as to the hazard of leaving it there. Cotter's proposed decontamination level of 0.6 mr/hr at surface of the ground was discussed and guidelines for acceptance criteria for contaminated ground requested.

6/26/74

Memo to Thornburg FS&EB from Roy, Rad & Env Protection recommending a letter citing Cotter against 20.301 and requesting a detailed safety analysis of leaving the U in the land fill. A draft of the proposed enforcement letter was attached.

11/1/74

Letter to Cotter from AEC-RO (Davis) enforcement (?) "disposal does not appear to be within the intent of the regulations, did not request a reply.

11/13/74

Note to files, thru C. C. Rouse, FF&RB, Licensing from W. T. Crow, Licensing recommending license termination re: application dated 5/10/74 radiological survey the results of which were verified by Grant, RO:III on 4/21-24/74 (?).

ORIGIN OF MATERIAL AND HISTORY OF LICENSE

- EARLY 1966 CONTINENTAL MINING AND MILLING COMPANY, CHICAGO, ILLINOIS, LICENSE NO. SMA-862 PURCHASED FROM AEC-ORO* THE ORE RESIDUES WHICH WERE STORED AT ST. LOUIS AIRPORT. ORE RESIDUES WERE MOVED TO 9200 LATTY AVENUE, HAZELWOOD, MISSOURI.
- DECEMBER 29, 1966 LICENSE NO. SMC-907 WAS ISSUED TO COMMERCIAL DISCOUNT CORPORATION, CHICAGO, ILLINOIS ALLOWING FOR POSSESSION OF RESIDUES, REMOVAL OF MOISTURE, AND SHIPMENT TO COTTER CORPORATION IN CANON CITY, COLORADO.
- JANUARY 1967 CONTINENTAL MINING AND MILLING TERMINATED BUSINESS, COMMERCIAL DISCOUNT CORPORATION OF CHICAGO, ILLINOIS, TOOK PHYSICAL POSSESSION OF THE FACILITIES AND SOURCE MATERIAL STOCKPILE.
- DECEMBER 31, 1969 COTTER CORPORATION, LICENSE NO. SUB-1022 PURCHASED REMAINING SOURCE MATERIAL AT LATTY AVENUE.
- BID PACKAGE DATED JANUARY 10, 1964, LISTED THE TOTAL RESIDUES OF 117,050 TONS OF RAFFINATE OR BARIUM SULFATE CAKE CONTAINING APPROXIMATELY 191 TONS OF URANIUM. THE 8700 TONS OF Ba SO_4 (LEACHED) CONTAINING 7 TONS OF URANIUM WAS ITEMIZED AS PART OF THIS PACKAGE.

AUGUST TO
OCTOBER 1973

COTTER TRANSPORTED FROM THE LATTY AVENUE SITE 10,763.41 TONS OF RESIDUE BY RAIL TO CANON CITY, COLORADO: AND 48,544.70 TONS OF RESIDUE AND SOIL TO WEST LAKE LANDFILL SITE.

APRIL 10, 23 AND
4, 1974

REGION III INSPECTION FINDINGS: DISPOSAL OF MATERIAL IN UNAUTHORIZED MANNER - CITATION.

MAY 17, 1974

INSPECTION REPORT FORWARDED TO HQ WITH RECOMMENDATION LICENSEE BE REQUIRED TO PROVIDE EVALUATION DEMONSTRATING NO UNDUE HAZARD TO PUBLIC OR ENVIRONMENT FROM BURIED MATERIAL.

DECEMBER 13, 1974

AEC LICENSING TERMINATED LICENSE NO. SUB-1022.

INSPECTION HISTORY

LICENSEE

FINDINGS

1 AUGUST 4, CONTINENTAL MINING & MILLING COMPANY
LICENSE NO. SMA-862

5 ITEMS OF NONCOMPLIANCE RE: INADEQUATE
POSTING, INADEQUATE SURVEYS & PERMISSIBLE
LEVEL OF RADIATION IN UNRESTRICTED AREAS

7 COMMERCIAL DISCOUNT CORPORATION
LICENSE NO. SMC-907

2 ITEMS OF NONCOMPLIANCE RE: PERMISSIBLE
LEVELS OF RADIATION IN UNRESTRICTED AREAS
AND INADEQUATE POSTING

APRIL 1, 1968 COMMERCIAL DISCOUNT CORPORATION
LICENSE NO. SMC-907

2 ITEMS OF NONCOMPLIANCE RE: PERMISSIBLE
LEVELS OF RADIATION IN UNRESTRICTED AREAS
AND INADEQUATE SURVEYS

70 COTTER CORPORATION
LICENSE NO. SUB-1022

ONE ITEM OF NONCOMPLIANCE RE: INADEQUATE
SURVEYS

24, 1974 COTTER CORPORATION
LICENSE NO. SUB-1022

ONE ITEM OF NONCOMPLIANCE RE: DISPOSAL
OF MATERIAL IN UNAUTHORIZED MANNER

CONCLUSIONS OF JUNE 22-24, AUGUST 11, 1976 INVESTIGATION

1. THE REMAINING ORE RESIDUES WERE MIXED WITH SOIL AT THE LATTY AVENUE SITE AND TRANSPORTED TO THE WEST LAKE LANDFILL AS REPORTED BY THE LICENSEE DURING THE APRIL, 1974 INSPECTION, HOWEVER, THE RESIDUE-SOIL MIXTURE IS COVERED BY APPROXIMATELY 3' OF OTHER SOIL AT WEST LAKE LANDFILL INSTEAD OF 100' AS REPORTED BY THE LICENSEE DURING THE APRIL, 1974 INSPECTION.
2. ENVIRONMENTAL SOIL SAMPLES INDICATE THE PRESENCE OF URANIUM ORE PROCESS RESIDUES AT THE LATTY AVENUE SITE. BETA-GAMMA SURVEYS PERFORMED BY IE:III PERSONNEL AT THAT SITE ON AUGUST 11, 1976 INDICATE LEVELS OF RADIATION EXCEEDING THE CRITERIA ESTABLISHED BY THE NRC FOR DECONTAMINATION OF LAND AREAS PRIOR TO RELEASE FOR UNRESTRICTED USE. FURTHER, THESE LEVELS WERE FOUND TO BE GREATER THAN THOSE REPORTED BY THE LICENSEE IN HIS APPLICATION FOR TERMINATION OF THE LICENSE (MAY 10, 1974).
3. BASED ON RADIATION MEASUREMENTS OF THE MATERIAL PRESENT AT THE WEST LAKE LANDFILL AND THE LATTY AVENUE SITE NEITHER LOCATION PRESENTS AN IMMEDIATE RADIOLOGICAL HEALTH HAZARD TO THE PUBLIC.
4. IT IS ESTIMATED THAT THE CONCENTRATION OF NATURAL URANIUM IN THE WEST LAKE LANDFILL COULD RESULT IN CONCENTRATIONS OF RADON AND RADON PROGENY NEAR OCCUPATIONAL CONCENTRATION LIMITS IN HOUSING STRUCTURES IF CONSTRUCTED DIRECTLY ON OR IN THE DISPOSED MATERIAL.

CONCERNS

1. THE LICENSEE'S SURVEYS AS REPORTED IN THE MAY 10, 1974 REQUEST FOR LICENSE TERMINATION WERE NOT PERFORMED IN ACCORDANCE WITH THE AEC'S DECONTAMINATION GUIDE.
2. IE:III SURVEYS AT THE LATTY AVENUE SITE ON AUGUST 11, 1976 INDICATE LEVELS OF RADIOACTIVITY IN EXCESS OF THE AEC'S DECONTAMINATION GUIDE.
3. THE URANIUM CONCENTRATION OF TAILING IN THE WEST LAKE LANDFILL APPROXIMATE THOSE IN COLORADO. POTENTIAL FUTURE HOUSING BUILT DIRECTLY IN OR ON THE TAILING DISPOSAL SITE COULD PRESENT THE SAME RADON AND RADON PROGENY CONCENTRATION PROBLEMS.

RECOMMENDATIONS

1. IT IS RECOMMENDED THAT THE SITUATION AT LATTY AVENUE BE BROUGHT TO COTTER CORPORATION'S ATTENTION WITH THE INSTRUCTION TO CLEAN UP THE REMAINING AREAS OF CONTAMINATION TO NRC'S GUIDELINES.
2. IF LEGALLY FEASIBLE, THE FORMER LICENSEE SHOULD BE REQUIRED TO PROVIDE AN ENVIRONMENTAL ANALYSIS FOR THE WEST LAKE LANDFILL SITE.
3. BASED ON IE;III'S PRELIMINARY EVALUATION, IT IS RECOMMENDED THAT SOME PROTECTIVE MEASURE BE IMPLEMENTED WITH RESPECT TO WEST LAKE LANDFILL TO PRECLUDE RECURRENCE OF THE SITUATION IN COLORADO WITH MILL TAILINGS; FOR EXAMPLE, PROVIDING A CODICIL TO THE LAND TITLE TO DESCRIBE THE SITUATION AND PROVIDE RESTRICTIONS TO LAND USE.

Radioactive Materials Checks Called Fair

By MARGARET W. FREIHOEGL
Of the Post-Dispatch Staff 2-1-76

No one adequately monitors radioactive materials in Missouri and the state is unprepared to handle accidental releases of radiation, two state officials familiar with the situation say.

The dumping of several thousand tons of low-level radioactive waste at the West Lake Landfill in St. Louis County, disclosed Sunday in the Post-Dispatch — is only one of several nuclear-related problems, said Kenneth M. Karch and Martin Nodiff.

Karch is director of environmental quality for the state Department of Natural Resources; Nodiff is the department's director of planning and policy development.

There is no evidence that the West Lake dumping caused a health hazard, but it apparently confused federal authorities who were supposed to be keeping track of the material.

False business records of the transaction caused federal officials to have incorrect records about the strength, volume and location of the material, the Post-Dispatch found.

For example, a firm being monitored in connection with the dumping criticized the way monitoring is done.

"I'm one of the Atomic Energy Commission's most outspoken critics," said David P. Marcott, executive vice president of Cotter Corp., which had purchased the waste material to extract valuable ores it contained.

"Ninety-nine per cent of the time they (federal authorities) don't know what's going on even when they have someone standing there . . . As a citizen and as a member of this industry, I'd like to see them do a better job," Marcott said.

Nodiff and Karch said they were disturbed by the West Lake incident because it was, in their opinion, indicative of serious gaps that exist in the monitoring of low-level waste.

The federal Nuclear Regulatory Commission, which replaced the now defunct Atomic Energy Commission is too shorthanded to investigate comprehensively, the officials said. State officials have no authority to fill in for the federal agency, they said.

They listed several problems, including:

(1) Inadequate monitoring of a disposal site at Sinclair Farms near Columbia, Mo., where low-level radioactive waste is buried in plastic bags.

(2) Inadequate preparations for possible accidents at two nuclear power plants situated near enough to Missouri to cause injury in the state and from Union Electric Company's Callaway County plant now under construction.

(3) Inadequate attention to the transportation of radioactive materials through the state. Tri-State Motor Co., the largest transporter of nuclear materials in the nation is based in Joplin, Mo. However, most of its cargo does not pass through Missouri, a study by the Department of Natural Resources found.

Karch and Nodiff failed to convince the

Legislature to enact a radiation protection act during the last session. It would have empowered state officials to monitor more effectively waste disposal and transportation. The state officials plan to urge enactment of the legislation again next session.

"The federal agencies just aren't manned to do a thorough and comprehensive job," Nodiff said. "They're forced to set priorities on what they inspect. They start with Mallinckrodt (which manufactures large amounts of radiopharmaceuticals), and they're taking care of that. But when you get down to the bottom of the list they might be hitting someone only once every 20 years."

A federal atomic safety official said he thought the monitoring program was comprehensive enough.

"It's disturbing that we might have got incorrect information (about the West Lake disposal)," said James Allen, chief of the fuel facility and material safety branch at the Nuclear Regulatory Commission's regional office in Glen Ellyn, Ill. "But when there's no health hazard involved in a situation, strict monitoring of it would be taking people away from more important health issues."

Allen said he was not concerned about the agency being duped. The West Lake episode was an isolated incident, he said.

In that case, B&K Construction Co., Inc., apparently submitted false invoices to Cotter Corp. declaring that it had moved nearly 40,000

tons of waste and soil in 1973 situated at St. Charles Rock Road.

In fact, a B&K officer admitted the firm actually had moved less. Relying on the incorrect inventory safety inspector concluded that been diluted with soil to reduce its

Consequently, the inspector's error on the strength, volume and waste. Despite the error, code officials said the material posed hazard.

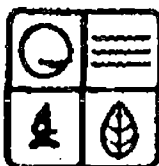
Safety chief Allen added the worried about the waste burial at Sinclair Farms near Columbia, Mo., established in 1973 to save the cost of the low-level waste material disposal area in Sheffield, Ill.

Allen said the material, from research projects at the University of Missouri, was very low in radioactivity and governed by federal regulations.

But Karch said he was disturbed because Sinclair Farms had not been thoroughly inspected before a burial was started. He was told federal officials relied too heavily instead of independent investigation track of activities there.

The Nuclear Regulatory Commission said Karch in a letter that the burial was not started for the

CHRISTOPHER S. BOND
GOVERNOR



JAMES L. WILSON
DIRECTOR

missouri department of natural resources

P.O. Box 1348

Jefferson City, Missouri 65101

314/751-2813

June 2, 1976

Mr. James G. Keppler
Regional Director
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

In articles published May 30 and June 1 (copies enclosed) St. Louis Post-Dispatch reporter Margaret W. Freivogel presented evidence that some seven tons of uranium were dumped in 1973 at the West Lake Landfill in St. Louis County by an Atomic Energy Commission subcontractor removing radioactive waste material from a site in Hazelwood, Missouri. The area was closed as an industrial and sanitary landfill by this Department in 1974 (a new sanitary landfill in an adjacent area protected from groundwater contact now operates under DNR permit). The closed area where the dumping allegedly occurred may be in direct contact with groundwater. It has no monitoring wells to permit evaluation of groundwater contamination.

In your letter to me of February 19, 1976 you stated that "a review by the then AEC showed there was no significant health or environmental hazard associated with the burial". The letter to Cotter Corporation from John G. Davis you enclosed stated, "It is our understanding from your contractor that the material was then deposited under about 100 feet of refuse and earth at St. Louis County sanitary landfill No. 1." The investigation by the Post-Dispatch indicates that AEC did not know the correct location of the dumping, the local geology, nor the actual concentration of uranium dumped. The depth cited must also be incorrect since no landfills in the St. Louis area contain 100 feet of fill. I must therefore question the validity of the AEC "review" of the burial operation.

I respectfully request that in view of the concerns of this Department and the people of the St. Louis area, that the Nuclear Regulatory Commission takes steps to:

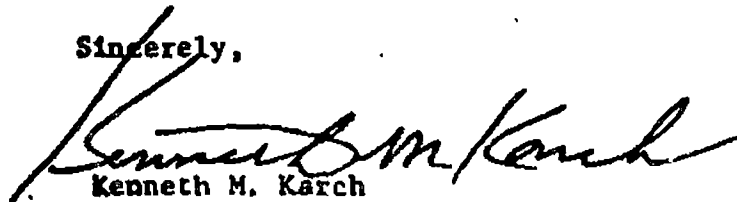
1. Provide me with all documents which might assist me in verifying the Post-Dispatch report, and in establishing the exact amount and chemical form of radioactive materials allegedly dumped at

Mr. Keppler
Page 2
June 2, 1976

- 2. Require the Energy Research and Development Administration, as successor to AEC's source material operations, to**
 - a) Include the West Lake Landfill in the areas it has selected for intensive aerial and ground level radiation monitoring.**
 - b) Locate the uranium precisely within the landfill, both as to position and depth.**
 - c) Install appropriate groundwater monitoring wells and implement a monitoring program to determine the extent, if any, of groundwater contamination.**
 - d) Recommend actions to be taken to protect landfill workers and the public from any potential hazards associated with this material.**
- 3. a) Advise me on who would be liable in the event that cleanup costs are involved.**
 - b) Ascertain whether federal laws or regulations were violated by either the Atomic Energy Commission or its subcontractor in the disposal of source material at an unlicensed site.**

In a related matter, I was disappointed to learn that you do not maintain records of radioactive waste burials carried out by licensees under authority of Section 20.304 of Title 10 CFR. I hereby respectfully request that your office obtain such records from all Missouri licensees who have made such burials and make these records available to me.

Sincerely,


Kenneth M. Karch
Director
Division of Environmental Quality

KMK:JE:jhb
cc: Robert J. Koke, EPA Region VII
Enclosure

30

RADIOACTIVE WASTE storage areas. Map indicates where

UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

IX Investigation Report No. J-01

Subject: Cotter Corporation
Hazelwood, Missouri
License No. SUB-1022 (Terminated)

Allegations regarding the disposal of uranium
ore residues were partially substantiated.

Period of Investigation: June 22-24, and August 11, 1976

| | |
|--|---------------|
| Investigators: <u><i>G. A. Phillip</i></u> | <u>1-4-77</u> |
| G. A. Phillip | (Date) |
| (6/22-24/76) | |
| <u><i>W. B. Grant</i></u> | <u>1-4-77</u> |
| W. B. Grant | (Date) |
| (6/22-24/76 and 8/11/76) | |
| <u><i>A. G. Januska</i></u> | <u>1/4/77</u> |
| A. G. Januska | (Date) |
| (8/11/76) | |
| <u><i>J. L. Jorgensen for</i></u> | <u>1/4/77</u> |
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A113

REASON FOR INVESTIGATION

Following receipt of a letter dated June 2, 1976, from the Missouri Department of Natural Resources, forwarding newspaper articles containing allegations regarding the disposal of uranium ore residues, Region III initiated an investigation.

SUMMARY OF FACTS

A report on an inspection conducted by Region III on April 10 and 21-24, 1974,^{1/} stated that according to licensee representatives the stockpile of the source material previously stored by Cotter Corporation under License No. SUB-1022 at 9200 Latty Avenue, Hazelwood, Missouri, had been shipped to its facilities in Canon City, Colorado by mid-1973 with the exception of 8700 tons of leached barium sulfate. The report further states: "Records maintained by Cotter Corporation showed that this material contained from 0.05% to 0.1% or approximately 7 tons of uranium as U_3O_8 . Licensee representatives stated, and records of invoices paid to B&K Construction Company show, that this material along with approximately 38,000 to 39,000 tons of soil removed from the top 12 to 18 inches of the Latty Avenue site was disposed of in St. Louis County sanitary landfill area No. 1 on Old Bridge Road over the period July 31 through October 12, 1973." The report further states: "This material was hauled to the landfill area and used as cover for part of the several hundred truckloads of garbage and refuse that are shipped to the landfill area site every week. The licensee estimates that the barium sulfate is probably buried under 100 feet of garbage at this time. The trucks were hosed out after hauling this material."

Subsequently, on November 13, 1974, in response to a request from Cotter Corporation, License No. SUB-1022 was terminated.

By letter dated June 2, 1976, the Director, Division of Environmental Quality, Missouri Department of Natural Resources, sent copies of news articles appearing on May 30 and June 1, 1976 in the St. Louis Post-Dispatch which indicated that the information in the inspection report was inaccurate. Specifically, the news articles indicated that:

- a) Only 9 tons of waste rather than nearly 40,000 tons of waste and soil had been moved from the Latty Avenue site.
- b) The material was dumped at West Lake Landfill rather than St. Louis County landfill No. 1.

In his letter the Director, Division of Environmental Quality, stated that the depth at which the material was reportedly buried must be

^{1/} RO Inspection Report No. 040-8035/74-01.

incorrect since no St. Louis area landfills contained 100 feet of fill.

It was ascertained that:

- a. During the period July 16 to October 9, 1973, over 43,000 tons of waste and soil were removed from the Latty Avenue site.
- b. The 43,000 tons of waste and soil were dumped at the West Lake Landfill.
- c. The material dumped at West Lake Landfill is covered by about 3 feet of other soil.

The inaccurate information in Inspection Report No. 040-8035/74-01 regarding the identification and location of the landfill area apparently resulted from miscommunication between the inspector and the B&K Construction Company representative. The erroneous information regarding the depth at which the residue was reportedly buried was based upon information furnished by the licensee who expressed this offhand opinion.

Environmental samples were taken and beta-gamma surveys were made at the Latty Avenue and West Lake Landfill sites on August 11, 1976. The Latty Avenue site and environs was revisited on October 20, 1976, for additional environmental samples and alpha, beta-gamma direct surveys. The report for the October 20, 1976 visit appears as Attachment D in this report. The Latty Avenue environmental samples confirm the removal of the bulk of materials but show that some residues remain. The Latty Avenue surveys showed radiation levels exceeding NRC criteria for decontamination of land areas prior to return to unrestricted use. The West Lake Landfill surveys indicated that radioactive material is buried there, and one environmental sample showed a slightly elevated natural uranium concentration. Based on the direct radiation surveys, neither site presents an immediate radiological health hazard to the public.

For the environmental transport pathways evaluated, a hazard analysis indicates that the material disposed of at the West Lake Landfill does not pose any immediate hazard to the public presuming the presence of 7 tons of natural uranium.

Solubility tests of the soil samples were not conducted, however, U_3O_8 combined with barium sulfate is known to be insoluble in water. Groundwater was not available for sampling at the West Lake Landfill site. A sediment and surface water sample was taken from a creek near the Latty Avenue site.

No items of noncompliance were identified during this investigation.

SCOPE OF INVESTIGATION

This investigation was conducted to determine the circumstances relating to the disposition of about 8700 tons of leached barium sulfate from the former licensee's facility at Hazelwood, Missouri and consisted of a review of pertinent records, independent sampling and measurements and interviews of individuals.

CONCLUSIONS

1. About 8700 tons of leached barium sulfate containing about 7 tons of U_3O_8 were mixed with about 39,000 tons of soil at the Latty Avenue site as reported by the licensee during the April, 1974 inspection. The residue-soil mixture was transported to the West Lake Landfill area in St. Louis County where it is covered by approximately 3 feet of other soils instead of 100 feet as reported by the licensee during the April, 1974 inspection.
2. Environmental soil samples indicate the continuing presence of some uranium and thorium ore process residues at the Latty Avenue site. Beta-gamma surveys performed by IE:III personnel at that site on August 11 and October 20, 1976, indicate levels of direct radiation exceeding the criteria established by NRC for decontamination of land areas prior to release for unrestricted use. Further, these levels were found to be greater than those reported by the licensee in his application for termination of the license dated May 10, 1974.
3. Based on direct radiation measurements of the material present at the West Lake Landfill and at the Latty Avenue site, neither location presents an immediate direct radiation health hazard to the public.
4. It is estimated, using uniformly conservative assumptions, that the concentration of natural uranium in the West Lake Landfill could result in increased airborne concentrations of radon 222 and its progeny, directly over buried materials, of about one-half of the 10 CFR 20 limits for unrestricted areas.
5. It is known that significant increases in indoor radon 222 concentrations can be experienced in dwellings built in or on disposed tailings. Physical and chemical differences between tailings materials, however, prohibit a direct comparison between what might occur in dwellings constructed in the West Lake Landfill as against the results of previous studies. A complete environmental impact analysis, specific to the materials at the landfill, should be performed to quantify the potential for radon buildup in dwellings built at the landfill.

DETAILS

Introduction

By letter dated June 2, 1976, Mr. Kenneth M. Karch, Director, Division of Environmental Quality, Missouri Department of Natural Resources, forwarded to Region III copies of articles published in the St. Louis Post-Dispatch on May 30 and June 1, 1976 which he stated in his letter "... presented evidence that some seven tons of uranium were dumped in 1973 at the West Lake Landfill in St. Louis County by an Atomic Energy Commission subcontractor removing radioactive waste material from a site in Hazelwood, Missouri." Mr. Karch stated in his letter that: "The investigation by the Post-Dispatch indicates that AEC did not know the correct location of the dumping, the local geology, nor the actual concentration of uranium dumped. The depth cited must also be incorrect since no landfills in the St. Louis area contained 100 feet of fill." A copy of Mr. Karch's letter with news articles attached is attached to this report as Exhibit A.

By letter dated June 17, 1976, Region III responded to Mr. Karch pointing out that Cotter Corporation, which was responsible for the burial, was an AEC licensee, not an AEC subcontractor and advising him, therefore, that the matter would be investigated by NRC. A copy of Region III's letter is attached to this report as Exhibit B.

Background

In early 1966 the Continental Mining and Milling Company, Chicago, Illinois, purchased from the Atomic Energy Commission ore residues which were stored at the St. Louis Airport. The material was moved from that site during 1966 to the 9200 Latty Avenue, Hazelwood, Missouri site. Continental Mining and Milling Company possessed License No. SMA-862 for this program. In January 1967 the Commercial Discount Corporation of Chicago, Illinois took physical possession of the stockpile. License No. SMC-907 was issued to Commercial Discount Corporation on December 29, 1966 allowing possession of the residues, removal of moisture and shipment to the Cotter Corporation facilities in Canon City, Colorado. In December 1969 the remaining source material was sold to Cotter Corporation who obtained License No. SUB-1022 dated December 31, 1969. The AEC's invitation to bid listed the following residues for purchase: 74,000 tons of Belgium Congo pitchblende raffinate containing about 113 tons of uranium; 32,500 tons of Colorado raffinate containing about 48 tons of uranium; and 8700 tons of leached barium sulfate containing about 7 tons of uranium.

In August 1970, Cotter Corporation began drying and shipping the remaining residues from the St. Louis site to their mill in Canon City, Colorado at the rate of about 400 dry tons of material per day. This operation was performed for Cotter Corporation by B&K Construction

Company and continued until about November 1970. During the August to November period, all of the residues were shipped to Canon City with the exception of approximately 10,000 tons of Colorado raffinate and 8700 tons of leached barium sulfate. There was no further activity at the Latty Avenue site until mid-1973.

During an inspection conducted in April 1974, a Region III inspector was informed that during the period July-October 1973, the remaining Colorado raffinate was shipped to Canon City without drying and the leached barium sulfate along with 38,000 to 39,000 tons of soil had been disposed of in a landfill area in St. Louis County. The leached barium sulfate contained from 0.05% to 0.1% uranium as U_3O_8 . Twelve (12) to eighteen (18) inches of the topsoil was stripped from the Latty Avenue site and disposed of with the leached barium sulfate.

Visit to Cotter Corporation, Lakewood, Colorado

On June 22, 1976, the following information was obtained during a visit to the Cotter Corporation, Lakewood, Colorado offices. Mr. David P. Marcott, Executive Vice President of Cotter Corporation, stated that all of the source material once stockpiled at the Latty Avenue site had been shipped by rail to its facility in Canon City, Colorado, except the approximate 8700 tons of leached barium sulfate. The material had very low concentrations of uranium, from 0.05% to 0.1%, and it was considered commercially impractical to further process this material to remove the uranium. He indicated that it would be necessary to process the material with several hundred pounds of hydrochloric acid to leach a pound of uranium from each ton of the barium sulfate. If the uranium could be leached out using water the licensee would certainly have processed the material rather than disposing of it. He indicated that for this reason he was confident that the uranium remaining in the leached barium sulfate now located in a landfill would not leach out into the groundwater. He said that the average uranium content of ore currently being processed by the mining industry was 0.16% which is greater than that disposed of in the St. Louis area. He indicated that some ore being processed by Cotter Corporation contains 0.65% uranium. He indicated that in his opinion the uranium contained in the leached barium sulfate did not constitute any threat to the environment wherever it is now located.

Marcott further advised that he visited the site on more than one occasion in 1973. He indicated that on one occasion Mr. Robert Davis of B&K Construction Company drove him around the area and pointed out to him the landfill area where the material would be dumped. He said he could not recall the name or location of the area. It was his recollection that the landfill area had a large deep pit. It was on this basis that he had expressed the opinion that the material was probably buried under 100 feet of soil and garbage. He indicated that he also visited the Latty Avenue site on another occasion and personally saw the trucks removing the dirt from the premises.

Marcott stated that B&K supplied weight sheets along with the invoices submitted for payment for disposing of the barium sulfate and dirt from the Latty Avenue site. These invoices also included charges for the Colorado raffinate shipped by rail to Canon City during the same period of time.

Mr. Duane A. Dughman, Vice President-Finance of Cotter Corporation, provided copies of 11 invoices for the period July to October 1973. These invoices showed a total of 48,544.70 tons of material were trucked to a disposal site which is not identified on the invoices. The invoices also showed that 10,763.41 tons of material were shipped by rail during the same period.

Dughman stated that he had reviewed all related records in Cotter's files and none of them identified the landfill area to which B&K Construction had taken the material. Dughman stated that the only papers relating to the Latty Avenue site not contained in the master files in the Lakewood, Colorado offices were the weight sheets that had accompanied B&K's invoices. He indicated that these had been retained at the Canon City facility. He made an inquiry by telephone of personnel at the Canon City facility concerning the weight sheets and was advised that they couldn't be located. It was indicated that Mr. Warren Goff, who was away and not scheduled to return for several days, was the only one who could locate them.

Copies of the 11 invoices were obtained and copies of them, with the cost entries deleted, are attached to this report as Exhibit C.

Visit to West Lake Landfill, Bridgeton, Missouri

On June 23, 1976, the following information was obtained from Mr. Vernon Fehr, Superintendent of Plant No. 1 West Lake Landfill.

Fehr indicated that he recalled that about three years ago, B&K Construction Company had dumped what he understood to be clean fill in an area adjacent to the office building. He indicated that he had seen the material being dumped and it looked like ordinary dirt to him. Since clean landfill is useful as cover, there is no charge for dumping it and no records are maintained of its receipt. It was his recollection that the dumping of the material did not involve any formal arrangements. The truck drivers just came to the site and he told them where to dump it. He stated that he could identify the specific location where the material was dumped and estimated that it was three feet down. While he recalled that a large quantity of material was dumped, he was somewhat doubtful that it totalled 39,000 tons.

Fehr advised that in 1974 the Missouri Department of Natural Resources advised West Lake to discontinue dumping in two areas on the site, one of those being the area where the B&K material was located. He indicated that this area was full anyway. He went on to say that the State required them to sink wells around the area so that samples of the groundwater could be obtained. He indicated that the State

obtained and analyzed groundwater samples from the wells and did not report any problems regarding their findings. He said the wells are still there.

Telephone Contacts with Ryckman, Edgerley, Tomlinson & Associates,
St. Louis Missouri

On June 23, 1976, telephone contacts were made with Dr. E. Edgerley and with Mr. Phillip K. Feeney of Ryckman, Edgerley, Tomlinson & Associates, an environmental engineering firm that provided consultant services to Cotter Corporation on health physics and site decontamination.

Dr. Edgerley stated that while he had visited the Cotter Corporation Latty Avenue site when the residues were being dried and shipped to Canon City, Colorado, he had no personal knowledge concerning the disposal of the material remaining onsite after these operations were discontinued.

Mr. Feeney stated that he was aware that the topsoil was stripped from the Latty Avenue site and trucked to a landfill but he did not know which one. He indicated that arrangements regarding the disposal operations were made directly between Cotter Corporation and B&K Construction Company. Feeney stated that he visited the site to perform a termination survey after being informed that the disposal operations were completed. During the first survey he made he found one small spot above 0.6 mR/hr. He instructed B&K to remove some dirt from this area which he indicated would be a truckload or less. Subsequently, he returned to the site and found less than 0.1 mR/hr. By letter dated May, 1974, the results of Feeney's survey were furnished to Cotter Corporation. A copy of this letter with its attachments appears as Exhibit D in this report.

Visit to B&K Construction Company, St. Ann, Missouri

On June 24, 1976, Mr. Robert S. Davis, Vice President, B&K Construction Company, was interviewed. Davis stated that the amount of material shown on the invoices submitted to Cotter Corporation was disposed of by trucking to the West Lake Landfill during the period July 16 to October 9, 1973 with the exception of 5,000 tons. He indicated that this 5,000 tons represented topsoil stockpiled in one corner of the Latty Avenue site. He had removed it and then returned it to the site after disposal operations were completed. This topsoil along with other topsoil was used to dress the site. He felt that he should be paid for handling the stockpiled topsoil and that the 5,000 tons was included in the amounts on the invoices sent to Cotter Corporation.

Davis stated that while there was no charge for dumping the material at West Lake, he had arranged to have the individual operating the scales there to record the weights of each truck on sheets of paper. He indicated he was required by Cotter Corporation to submit these weight sheets with the invoices. Davis provided copies of the weight sheets which bear the heading "B&K Dirt Hauling" and the date. The following information is

recorded: truck number, gross, tare, and net weights. A spot check was made of the totals of the net weights shown on the sheets as well as the totals of the net weights for a billing period with the weights on the covering invoice. No discrepancies were found. There were a total of 104 weight sheets associated with these invoices. The total weight of material trucked to the disposal area shown on the invoices was 48,544.70 tons. Subtracting the 5,000 tons of topsoil referred to above, the amount of material trucked to the disposal area was 43,544.70 tons. The invoices also show a total of 10,763.41 tons of material were shipped by rail to Canon City.

Although the above invoices and weight sheets did not indicate the disposal area to which the material was taken, Davis stated that it was taken to the West Lake Landfill. He offered for review a job card record relating to the Latty Avenue site and several entries were noted for the period July 16, 1973 to October 10, 1973 which indicated residue was taken to West Lake from Cotter, Latty Avenue.

Davis also stated that in addition to using his own trucks, he arranged for much of the hauling to be done by other trucking firms. He made available for review from his records, bills from these firms. Weekly billing statements, with drivers time tickets attached, covering the period August 3, 1973 to October 12, 1973 were noted from Walker Trucking Service, Ferguson, Missouri. These billing statements contain the notation "Latty Avenue to West Lake." Billings were also reviewed which had been received from the following: Bruce Barnes Truck Service, St. Louis; Vic Koepke Excavating and Grading Company, Bridgeton; and H. Reeder Hauling, Inc., St. Louis. On at least some of these billings, there are entries showing that material was hauled from "Latty Avenue" or "Cotter" to West Lake.

It is concluded that the material in question is now buried under about three feet of clean soil at the West Lake Landfill. While little significance was attached to the actual location of the disposed material at the time of the 1974 inspection, the licensee was notified, by letter dated November 1, 1974, that the disposal did not appear to be within the intent of the Commission's 10 CFR 40 regulations (Exhibit E) concerning alteration of source material to obtain a mixture no longer subject to licensing.

Visit to Latty Avenue, Hazelwood, Missouri Site and West Lake Landfill, Bridgeton, Missouri Site

On August 11, 1976, two Inspection and Enforcement Region III inspectors visited the Latty Avenue site and West Lake Landfill site for the purposes of performing radiation surveys and collecting environmental samples. The Region III inspectors were accompanied by Mr. Stephen Nagle to the Latty Avenue site and Mr. Clarence Stein to the West Lake Landfill site. Messrs. Nagle and Stein represented the State of Missouri Division of Environmental Quality, Department of Natural Resources.

The results of the August 11, 1976 surveys of the Latty Avenue site and the West Lake Landfill site with a narrative and reference material are attached to this report as Attachment A.

Results of the analyses of the environmental samples taken on August 11, 1976 from the Latty Avenue site and West Lake Landfill site are attached to this report as Attachment B.

Measurements performed at the West Lake Landfill and analyses of samples from the area have been reviewed. The following hazard analysis is based on the measurements and analyses and on information derived from personnel of the former licensee.

Direct Radiation - West Lake Landfill

Beta-gamma measurements made at three feet from the surface indicate two general areas where readings above background were noted. These measurements indicated 0.06 mrad/hr maximum. The measurements at contact indicated 0.8 mrad/hr maximum, and about 0.1 mrad/hr average. Thus, for continuous exposure the maximum gonadal or whole body dose would be:

$$0.06 \text{ mrad/hr} \times 8.76 \times 10^3 \frac{\text{hrs}}{\text{year}} \approx 500 \text{ millirads/year or approximately } 500 \text{ millirems/year.}$$

However, the area has been closed for dumping by Missouri DNR and is essentially unoccupied.

Calculated Atmospheric Concentrations of Rn-222 at West Lake Landfill

West Lake Landfill area sample analytical results do not indicate the presence of significant natural uranium activity. These surface samples, however, would not be expected to be representative of material which is reportedly covered by overburden with a thickness of approximately one meter.

According to information provided by the licensee, the covered material consists of approximately 7 tons of natural uranium in about 8,700 tons of barium sulfate and about 39,000 tons of soil. Thus, an approximate natural uranium weight percentage of the mixture would be 0.015 percent. With a natural uranium specific activity of 6.77×10^{-7} Ci/g, the specific activity of the mixture would be approximately 1.0×10^{-10} Ci/g or 1.0×10^{-4} uCi/g. Analysis of two surface samples from the Latty Avenue site (source of the covered material) indicated natural uranium concentrations of approximately 1.0×10^{-4} uCi/g, which supports this estimate of average mixture concentration. The Ra-226 analysis showed an average concentration of about 1.0×10^{-3} uCi/g for the two samples.

Calculations have been performed to estimate radon-222 emanation from the ground, due to buried material with an average Ra-226 concentration of 1.0×10^{-3} uCi/g below a depth of 100 cm. These calculations indicate a total release of approximately 0.1 uCi/sec of radon-222 from the ground due to the covered tailings mixture. It should be noted that the assumed depth of burial yields a reduction of about a factor of three below what emanations would exist, assuming no cover.

Additional calculations were performed using the "virtual point source" method for determining average air concentration of radon-222 above the covered material. The area was estimated to be approximately square, with a dimension of forty meters. This calculation yielded an approximate $\frac{Q}{V}$ atmospheric dispersion coefficient in the center of the area of 1.7×10^{-3} sec/m³.

Applying this coefficient to the release rate of 0.1 uCi/sec yields an average increase in background air concentration of 1.7×10^{-3} uCi/m³ directly over the covered tailings, which is about one-half of the 10 CFR 20 unrestricted area concentration limits. This Rn-222 contribution in air, due to the buried materials, would be indistinguishable from background within a few hundred meters from the landfill. Based on the conservatism of assumptions, this atmospheric concentration of Rn-222 is considered an upper limit. Calculations are appended to this report as Attachment C.

Other Pathways

Pathways other than direct exposure and inhalation of radon-222 and progeny do not appear to be significant. No likely means of an ingestion pathway were identified, and inhalation due to fugitive dusting can be discounted since the material is covered and not subject to becoming airborne. An evaluation of the potential for groundwater contamination could not be made in the absence of information concerning the hydro-geologic character of the local area. Three shallow (about 20 feet) wells in the area were all found to be dry at the time the IE:III inspectors visited the site, precluding collection and analysis of groundwater samples. As noted above, barium sulfate and U₃O₈ are known to be insoluble in water.

Future Development

It is noted that the radium 226 concentration of materials presumed buried at the West Lake Landfill approximates that found in tailings materials used for leveling, aggregate and backfill under or around the foundations of dwellings in certain western Colorado communities. Some of these Colorado dwellings experience indoor radon 222 concentrations capable of yielding exposures approaching those implied in the occupational limits of 10 CFR 20. Differences in the physical and chemical natures of the West Lake Landfill and the western Colorado tailings, however, suggest a lower radon release fraction for materials of the type buried at the land fill. Recognizing the potential for radon buildup in

dwellings and the uncertainties concerning certain parameters needed to estimate that potential at the West Lake Landfill, a complete environmental impact assessment is necessary to accurately evaluate the hazard potential for this pathway.

Comparison with 10 CFR 20 Criteria

Finally, it should be noted that a licensee may bury up to about two tons of natural uranium per year (in twelve increments) within criteria contained in 10 CFR 20 concerning depth (4 feet) and spacing (6 foot spacing between locations). Thus, in four years, eight tons could be disposed of in forty-eight one-sixth ton batches buried in a grid with six foot centers. Such a grid would comprise an area significantly smaller than that found in this case, while containing about the same quantity of disposed uranium.

| | | | | | | | | |
|---|---|---|------|------|---|---|---|----------------------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 6 ft | 0 | 0 | 0 | |
| 0 | 0 | 0 | 6 ft | 0 | 0 | 0 | 0 | 36 ft \approx 11 m |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | 36 ft \approx 11 m |

Conclusion

Seven tons of uranium could be disposed of by burial in accordance with 10 CFR 20.304 in an area significantly smaller than that now existing at the West Lake Landfill. Based on our estimates of maximum potential exposure conditions by various pathways, it is concluded that the material now present at the West Lake Landfill does not represent a radiological hazard by any pathway yet identified. Based on studies of the use of uranium tailings for backfill and leveling under and around residence foundations in Colorado, it is estimated that increased indoor radon and radon progeny concentrations could be experienced in structures built directly in or on the disposed tailings. An environmental impact analysis is required for an accurate estimate of the hazard potential for this pathway.

Attachments:

1. Attachments A, B, C and D
2. Exhibits A-E
3. References 1-4

ATTACHMENT A

During a survey performed by this office on August 11, 1976, to determine the effectiveness of Cotter Corporation's decommissioning of their Hazelwood, Missouri (Latty Avenue) site, a difference in the radiation readings supplied by Cotter and those found by this office was noted.

On May 10, 1974, Cotter reported exposure rates which ranged from 0.01 to 0.4 mR/hr measured at three feet above grade (type of instrument unknown). (Reference 1) These values were the basis for termination of the license by the Directorate of Licensing. (Reference 2) The Region III August 11, 1976 survey, made at the same distance, yielded readings ranging from 0.3 to 0.8 mrad/hr beta-gamma. (Reference 3) Additionally, a survey at one centimeter revealed two areas reading 1.2 and 1.8 mrad/hr beta-gamma. The instrument used by IE:III inspectors in performing these measurements was an Eberline E-500B with an end-window Model HP-190 Hand Probe (1.4-2 mg/cm²).

The presently acceptable limit for release of ground areas, as implied in the "Decontamination Guide" (Reference 4) is 0.4 mrad/hr, total, or 0.2 mrad/hr, average, with a maximum of 1.0 mrad/hr, all of which are to be measured at 1 cm with a probe of not more than 7 mg/cm² of total adsorber. Thus, the NRC Region III survey of August 11, 1976 showed radiation levels at the Latty Avenue site exceeding the acceptable release limits, while the survey performed by Cotter Corporation showed levels within the guidelines. Both surveys indicate a low, non-hazardous radiation level. The difference in results might be attributable to differences in instruments and procedures used. The August 11, 1976 surveys were the first independent examination by NRC of radiation levels at the Latty Avenue site.

ATTACHMENT B

ENVIRONMENTAL SAMPLE
Analytical Results by HSL

Results (uCi/g)

| Sample No. | Sample Description | Natural Uranium | Ra-226 |
|------------|---------------------------------------|-------------------------|---------------------------|
| L-1 | Soil | $1.2 + 0.1 \text{ E-4}$ | $1.4 + 0.03 \text{ E-3}$ |
| L-2 | Soil | $7.5 + 0.1 \text{ E-5}$ | $5.14 + 0.14 \text{ E-4}$ |
| L-3 | Vegetation | $2.6 + 0.2 \text{ E-5}$ | — |
| L-4 | Wet Sediment From Cold Water Creek | $5.3 + 0.4 \text{ E-6}$ | — |
| W-1 | Soil | $5 + 2 \text{ E-7}$ | — |
| W-2 | Soil | $5.3 + 0.4 \text{ E-6}$ | — |

- Note: 1) L-1 through L-4 collected at Latty Avenue Site
2) W-1, W-2 collected at West Lake Landfill
3) L-3 vegetation dried, analyzed dry, reported as wet weight
4) L-4 dried prior to analysis
5) A systemic error of + 20% should be assigned to Ra-226 analysis
due to uncertainty of the equilibrium between Rn-222 and Rn-226.
An 80% equilibrium ratio was assumed.

ATTACHMENT C
Rn-222 Emanation Calculations

1. Rn-222 at the Spoils/Cover Interface

$$\begin{aligned}\text{Total release} &= (\text{area}) \times (\text{source flux}) \\ &= (1600 \text{ m}^2) \times DC_0 (\lambda/(DS))^{1/2}\end{aligned}$$

Kramer, et al, the Natural Radiation Environment, 1964

Assume:

$$D = 1.5 \times 10^{-2} \text{ cm}^2/\text{sec}$$

$$C_0 = (1.0 \text{ nCi/g})(1.6 \text{ g/cm}^3)(1 \times 10^{-1})$$

$$= 0.16 \text{ nCi/cm}^3 = 160 \text{ pCi/cm}^3$$

$$\lambda = 2.099 \times 10^{-6} \text{ sec}^{-1}$$

$$S = 0.25$$

1×10^{-1} = 10% "emanation power" (fraction escaping solid soil)
Tanner, The Natural Radiation Environment, 1964

0.25 = soil "void fraction"

$$\begin{aligned}\text{Total release} &= (1.6 \times 10^7)(1.5 \times 10^{-2})(160)(2.099 \times 10^{-6}/(1.5 \times 10^{-2}/0.25)) \\ &= (3.84 \times 10^7)(3.5 \times 10^{-5})^{1/2}\end{aligned}$$

$$\begin{aligned}\text{Total release} &= 2.3 \times 10^5 \text{ pCi/sec} \quad \text{over } 1.6 \times 10^7 \text{ cm}^2 \\ \text{area release} &= 1.44 \times 10^{-2} \text{ pCi/cm}^2 \cdot \text{sec}\end{aligned}$$

2. Rn-222 at the Surface of the Cover

$$C_2 = C_1 \exp(-Z(\lambda/D)^{1/2})$$

Tanner, The Natural Radiation Environment, 1964

Assume:

$$C_1 = 1.44 \times 10^{-2} \text{ pCi/cm}^2 \cdot \text{sec}$$

$$D = 1.5 \times 10^{-2} \text{ cm}^2/\text{sec}$$

$$\lambda = 2.099 \times 10^{-6} \text{ sec}^{-1}$$

$$Z = 100 \text{ cm}$$

$$C_2 = (1.44 \times 10^{-2}) \exp(-100 (2.099 \times 10^{-6}/1.5 \times 10^{-2})^{1/2})$$

$$= (1.44 \times 10^{-2}) \exp(-1.18)$$

$$= (1.44 \times 10^{-2}) (0.31)$$

$$C_2 = 4.4 \times 10^{-3} \text{ pCi/cm}^2 \cdot \text{sec}$$

$$\text{Entire area: } (4.4 \times 10^{-3})(1.6 \times 10^7) = 7.0 \times 10^4 \text{ pCi/sec}$$

Therefore, the total emanation rate is about 70 nCi/sec, or about 0.1 μ Ci/sec.

SUPPLEMENTAL REPORT

INVESTIGATION FOR URANIUM/THORIUM

COTTER CORPORATION, LATTY AVENUE SITE, ST. LOUIS, MISSOURI

OCTOBER 20, 1976

Pursuant to the ongoing investigation of possible uranium/thorium contamination at the Latty Avenue site, Messrs. J. A. Pagliaro and G. T. Gibson performed a site inspection on October 20, 1976. The purpose of this inspection was to identify the property owner from county tax records, to survey the property with beta-gamma and alpha survey instrumentation, and to obtain selected soil and vegetation samples for laboratory analyses.

The records reviewed at the St. Louis County Building, 41 South Central, St. Louis, Missouri, were the current county property tax rolls. County personnel stated the tax records examined were dated as of July 1976. The record indicated the following:

Address: 9200 Latty Avenue

Owner: Commercial Discount Corporation
55 East Monroe Street
Chicago, Illinois 60602

Size: 3.5 acres

Telephone communication with IE:III was performed to ascertain whether the property had since been transferred. Additional information was received which indicated Commercial Discount Corporation had transferred ownership of the property in August 1976 to the Bayless Company, 175 Outer Road West, Valley Park, Missouri.

A site investigation was then performed and samples were obtained. Figure 1 indicates the relative position of various buildings, landmarks, and locations of collected samples. The area in Figure 1 encompassing the abandoned garage, abandoned warehouse building, and the abandoned and boarded-up burned building was estimated to be approximately three (3) acres. The entire area, including the warehouse area and plowed field, was estimated to be in excess of six (6) acres.

A survey of the plowed field utilizing the beta-gamma instruments indicated only background activity (<0.1 mR/hr), except for several small yellow-colored chunks of surface material. The location of the "yellow surface" material is shown in Figure 1. The "yellow surface" chunks ranged in size from 4 x 4 x 1 inches to small flakes. The material was somewhat fibrous in texture. The "yellow surface" material had an apparent beta-gamma flux of 10 mR/hr at contact. Approximately 1.5 pounds of the "yellow surface" was collected for laboratory analysis. Several holes were dug to a depth of 15 inches but no subsurface yellow material was excavated.

Selected soybeans were collected from the plowed field, within ten feet of the "yellow surface" material. Approximately 1/4 pound of soybeans were collected for laboratory analysis. A background control soybean sample was obtained later, a distance of 7 miles from Latty Avenue.

A rusting abandoned hopper, shown in Figure 1, was surveyed for beta-gamma and alpha activities. Survey results showed no significant activity above background ($< .1$ mR/hr beta-gamma, 500 DPM alpha).

The warehouse building was surveyed with beta-gamma and alpha instruments. The floor of the warehouse was composed of dirt and broken concrete. Several elevated readings above background activity were recorded. The highest apparent location was in the center of the warehouse, beside a support column. Readings of up to 0.8 mR/hr beta-gamma and 30,000 DPM alpha were observed. A "warehouse dirt" sample, consisting of approximately 2 pounds of topsoil was obtained for laboratory analysis.

Preliminary radiological analyses were performed at IE:III using beta-gamma, alpha, and gamma-spectroscopy instrumentation. The samples were then forwarded to ERDA:Health Services Laboratory (HSL), Idaho Falls, Idaho.

The results of the IE:III analyses showed no detectable activity in either soybean sample. The "yellow surface" sample showed 10 mR/hr beta-gamma and 4,000 DPM alpha at contact with a few grams of material. Gamma scanning with an unshielded NaI crystal indicated the presence of uranium isotopes but not thorium and thorium daughters. The "warehouse dirt" sample showed 0.3 mR/hr beta-gamma and 26,000 DPM alpha at contact with a sample of about 250 g. Gamma scanning with NaI indicated both uranium and thorium and their decay chain products to be present.

The results of alpha spectroscopic analyses of the two soil samples by HSL are presented in Table I below. HSL analyses of the two soybean samples showed only small quantities of naturally-occurring K-40.

TABLE I

| <u>Sample</u> | <u>Radionuclide</u> | <u>Alpha Spectroscopic Concentration (uCi/g)</u> | | | |
|-----------------|---------------------|--|---|------|------|
| Warehouse Dirt | Th-230 | 3.61 | + | 0.05 | E-02 |
| | Th-227 | 4.4 | + | 0.2 | E-04 |
| | U-238 | 6.64 | + | 0.06 | E-04 |
| | U-234 | 6.52 | + | 0.06 | E-04 |
| | U-235 | 3.09 | + | 0.07 | E-05 |
| | Ra-226 | 5.2 | - | 0.1 | E-04 |
| Yellow Material | U-238 | 0.3 | + | 0.1 | |
| | U-234 | 0.3 | + | 0.1 | |
| | U-235 | 0.3 | - | 0.1 | E-02 |

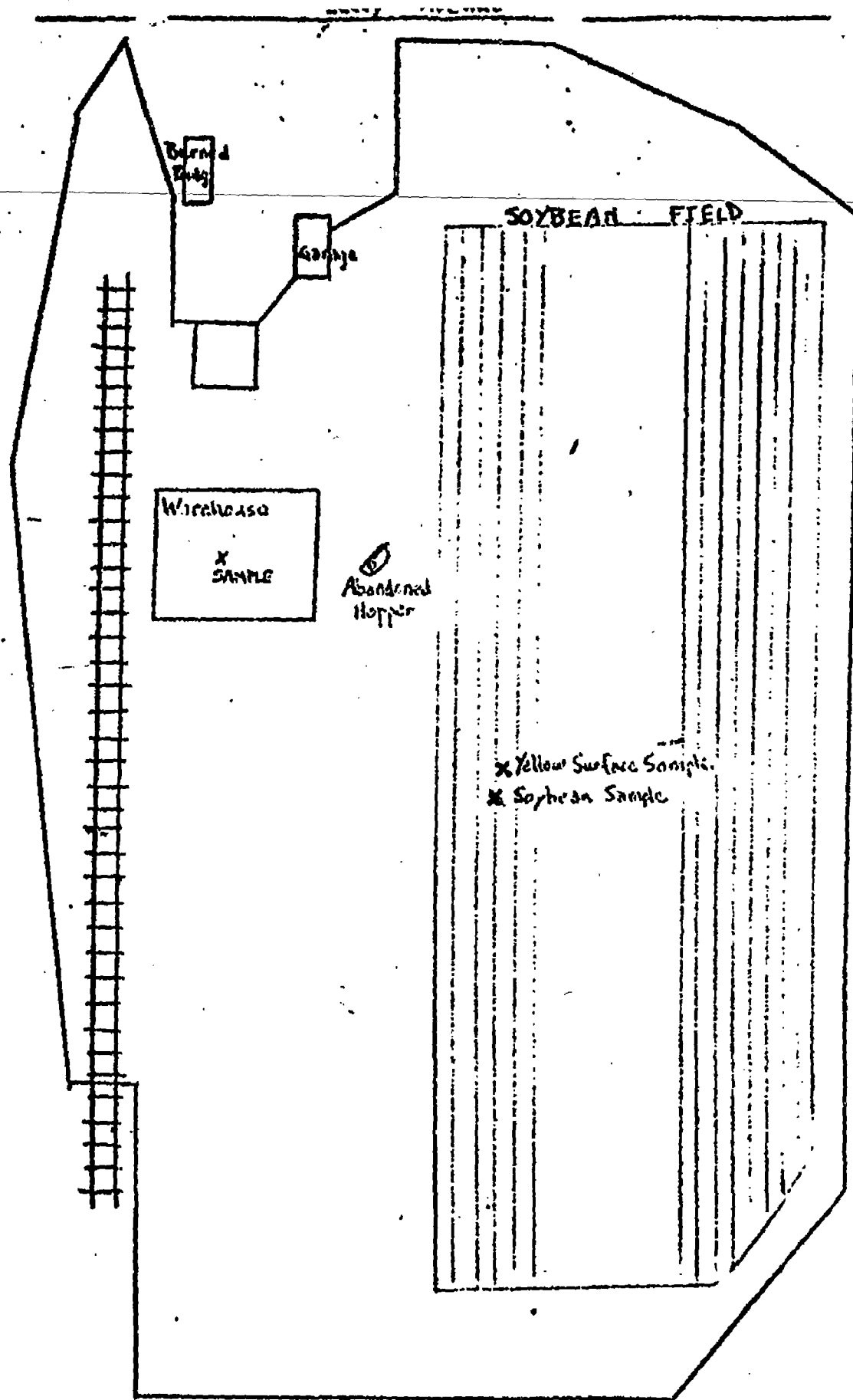
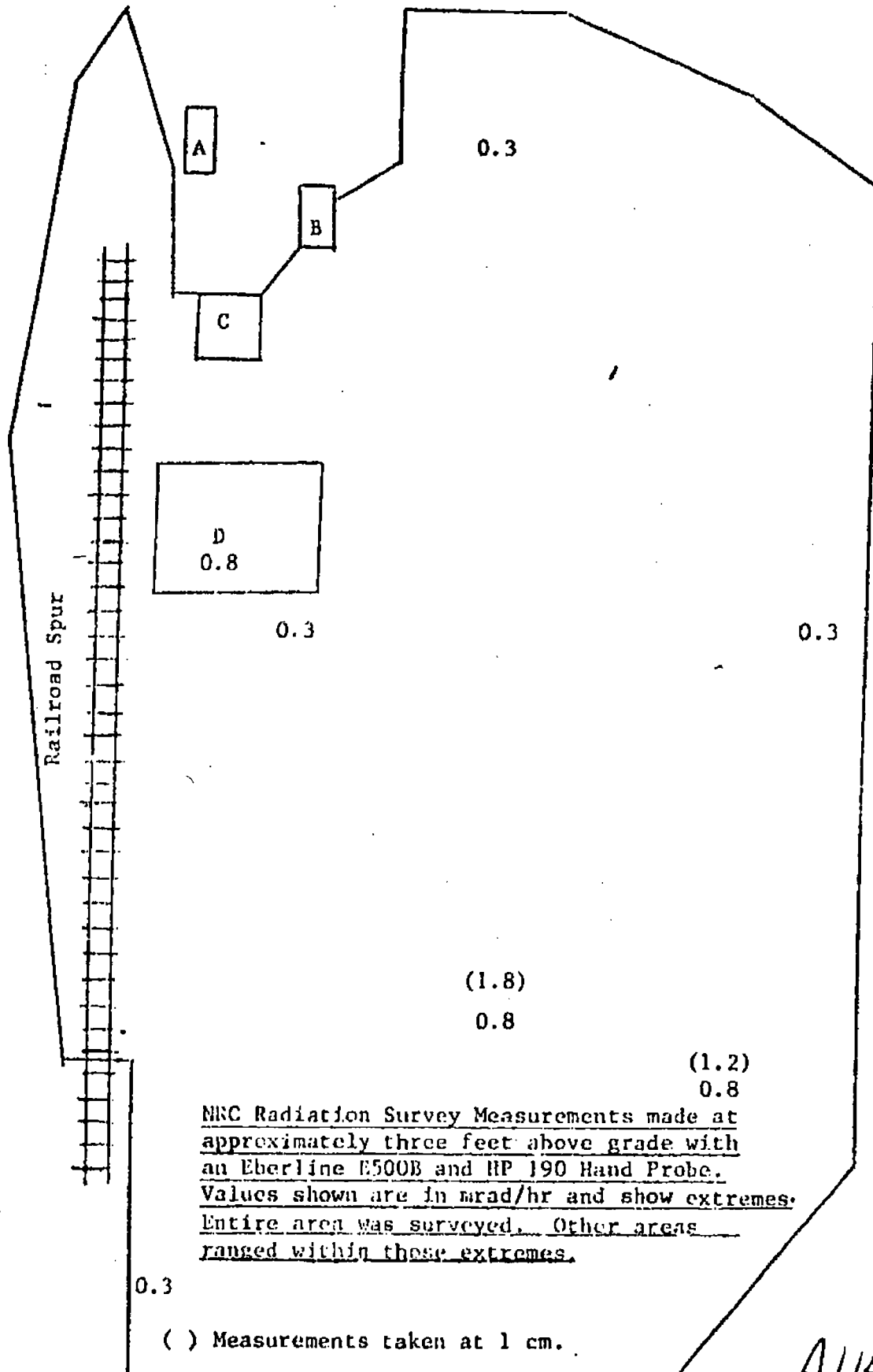


FIGURE 1

Locations of sampling and survey
9200 Lally Ave., October 20, 1976



8-1-74

R J Dube -

Returned this call to McGrath
for Burkhardt - Concerned with
fact that Cotter has a tenant for
leasing property in St Louis area.
By ltr dated 5/10/74 Cotter requests
termination of license #SUB-1022
& submitted results of radiation
survey. McGrath claims he was
informed ~ 3 weeks ago by Burk[?]_B
that R.O. had run AEC survey
& that there was no hitch in
termination. Cotter wants to
know status & expedite action
if possible.

J.E.R.

40-8055

JUN 26 1974

H. D. Thornburg, Chief, Field Support & Enforcement Branch, RO

COTTER CORPORATION, GOLDEN, COLORADO, LICENSE NO. SUB-1022
(HAZELWOOD, MISSOURI SITE) - FO #394

We agree with RO:III's conclusion that attempts to recover the seven tons of natural uranium under 100 feet of refuse and earth would serve no useful purpose, since the uranium compound would not even be identifiable. Additionally, the licensee alleged that the uranium concentration was reduced to $<0.05\%$ by weight by sufficiently mixing the uranium with top soil. While the weight percent of uranium ($<0.05\%$) would be considered exempt under the provisions of 10 CFR Part 40, OGC has previously ruled that mixing higher enriched source materials with other materials to reduce the concentration is not permissible and is not the intent of Part 40 (ref. Molybdenum Corporation of America, Washington, Pa. - request to mix thorium with soil to reduce concentrations and L's reply dated 1-9-73).

We believe, along with RO:III, that the proper action to take is for RO:HQ to write to Cotter Corporation, citing them against 10 CFR 20.301 and requesting that they provide a detailed safety analysis of the consequences to be expected from permitting the uranium to remain at the site. The enforcement letter should not include the usual Part 2 paragraph except for a time limit to answer the letter. Also, Licensing should be requested to assist in evaluating the licensee's response much the same as reviewing environmental impact reports.

We have been in contact with Lee Rouse of Licensing concerning this matter. He has informed us that L has received a request for license termination from Cotter Corporation together with the results of Cotter's beta-gamma radiation surveys of the Hazelwood, Missouri site subsequent to decontamination efforts. In this regard, RO:III has requested decontamination criteria for "ground" surveys since the "Decontamination Guide," which has previously been furnished Cotter Corporation does not specifically discuss ground surveys (only equipment, buildings, etc.). However, a precedent has already been established for

| | | | | | |
|---------|--------------------|--|--|--|--|
| OFFICE | 9608300102 740626 | | | | |
| SURNAME | PDR ADOCK 04008035 | | | | |
| DATE | C PDR | | | | |

H. D. Thornburg

- 2 -

using the "guide" for surveys of ground areas around uranium mills, which Licensing and RO have found to be acceptable in the past. Such a survey has consisted of a surface alpha survey using the limits in row No. 1 of either table I or II of the guide and a beta-gamma survey using row No. 3 of the guide. We have been informed by L that they plan to write back to Cotter requesting an alpha survey in addition to the beta-gamma survey already submitted. Of course, in extending the guide to ground surveys in this manner only direct radiation measurements have been taken, no smears for removable contamination.

We have drafted a proposed enforcement letter to Cotter Corporation which is enclosed for your use. The letter should receive concurrence from Licensing (Lee Rouse) prior to issuance.

Gen W. Roy, Chief
Radiological & Environmental
Protection Branch, RO

Enclosure:
Proposed ltr to Cotter Corp.

cc: J. Allan, RO:III, w/o encl.

| | | | | | | |
|-----------|---------|--------|--|--|--|--|
| OFFICE ➤ | RO:REPB | RO | | | | |
| SURNAME ➤ | JRM:er | W. Roy | | | | |
| DATE ➤ | 6/26/74 | 6/26 | | | | |

D R A F T 6/26/74

Cotter Corporation
ATTN: Mr. David P. Marcott
Executive Vice President
P. O. Box 356
Golden, Colorado 80401

Gentlemen:

This refers to the inspection conducted by Mr. W. B. Grant of our Region III office on April 10 and 24, 1974, at your Hazelwood, Missouri Site and on April 23, 1974 at your Canon City, Colorado office of activities authorized by AEC Source Material License No. SUB-1022. Reference is also made to the discussions of our findings with you by Mr. Grant on April 26, 1974.

The inspection was an examination of the decommissioning operations at the Hazelwood, Missouri site and consisted of interviews with personnel of B-K Construction Company; consultants of Ryckman, Edgerly, Tomlinson and Associates, and an examination of records at the Canon City, Colorado office.

The inspection revealed that one of your decommissioning activities at Hazelwood, Missouri, appears to be in violation of AEC requirements. Specifically, it was ascertained that about 8700 tons of leached barium sulfate containing approximately 7 tons of natural uranium was disposed of at the St. Louis, Missouri County sanitary landfill area No. 1. during the priod July - October 1973. Such disposal is contrary to Section 20.301 of 10 CFR Part 20, "Standards for Protection Against Radiation."

It is our understanding through discussions with your contractor that the barium sulfate containing uranium was mixed with approximately 39,000 tons of soil prior to disposal at the landfill site and therefore probably contains <0.05% by weight of uranium. However, our Office of General Counsel has determined that such action to reduce concentrations is not within the intent of the exemption in Section 40.13 of 10 CFR Part 40, "Unimportant Quantities of Source Material."

In order to determine what further action may be appropriate in this case, if any, we request that you submit to this office within 20 days of your receipt of this letter a safety analysis report discussing the consequences to be expected from the disposal of uranium in this manner. The report should include the hydrological and geological characteristics for this situation with respect to transport rates (soil chemistry) into underground aquifers, water table variances and local community water wells. Consideration should also be given to adjacent surface water streams with regard to subterranean water movement into the streams.

We have been advised that the Directorate of Licensing is in receipt of your request for license termination, which included the results of the radiation surveys performed at the Hazelwood site. You will receive separate correspondence concerning that request from the Directorate of Licensing.

Davis or Knuth

A. Action Code FO#394Name of Licensee and Facility Cotler Corp. (Hazelwood, Missouri)Docket No. or License No. SUB-1022Title Unauthorized disposal of Natural Uranium

Origin _____ Date Rec'd _____

B. PS&EB Branch Coordinator:

Bryan X Dreher _____ H. D. Thornburg _____

Ellis _____ Paulus _____ G. Gower _____

C. Action Requested of:

ADRIET X M&PPOB _____ EPE _____ RPB _____ ADCO _____

OB _____ CB _____ TAB _____ OOE _____ REGION _____

Date Requested 5/23/74 Completion Requested by RoutineReference RO Inspection Report 040-8035/74-01D. Action Requested: Please evaluate the reported material disposal
and advise us as to the proper enforcement action.

E. Date Action Completed _____

Close-out (Date & Method) _____

Comments: If completion date is not consistent with your work
schedule, please let us know.

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

cc: J. G. Davis



UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TELEPHONE
(312) 858-2660

MAY 17 1974

H. D. Thornburg, Chief, Field Support and Enforcement Branch
Directorate of Regulatory Operations, Headquarters

COTTER CORPORATION, GOLDEN, COLORADO
LICENSE NO. SUB-1022 (HAZELWOOD, MISSOURI SITE)

Attached is a report of an inspection of subject licensee's program which we are forwarding for Headquarters enforcement.

During a routine inspection conducted on April 10, and April 23 and 24, 1974, at the licensee's Hazelwood, Missouri, facility it was determined that the licensee had disposed of approximately 8700 tons of leached barium sulfate ($Ba SO_4$) which contained about 7 tons of natural uranium (0.05 to 0.10%) to a land fill area near St. Louis, Missouri, as part of their decommissioning of the Hazelwood site. The licensee representatives stated that the uranium bearing residue had been mixed with approximately 5 times as much top soil, and therefore, in their opinion contained an unlicensable percentage of uranium (less than 0.05%). The method used for mixing was to spread the barium sulfate, which is a whitish, easily distinguishable heavy compound, over a considerable part of the 7 acre Hazelwood site and then remove it along with approximately 12 to 18 inches of the surface soil. The purpose was twofold, to disperse and dilute the uranium $Ba SO_4$ and to decontaminate the entire top surface of the site which had been used for storage of uranium ore residues since 1966.

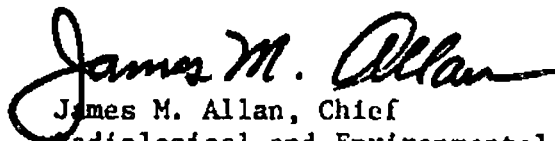
The land fill area to which the material was disposed is one used by St. Louis County which includes the City of St. Louis. Estimates are that the site receives on the average of two to three hundred truckloads of refuse and garbage each week. Each day's dumping is covered with earth. Records show the licensee's material was hauled to the dump during the period of July through October 1973. B&K Construction Company, the licensee's contractor, estimates that the material is probably buried under 100 feet of garbage at this time.

While the licensee is clearly in violation of 10 CFR 20.301 in that he disposed of licensed material in an unauthorized manner, the large numbers involved need to be brought into prospective. 10 CFR 20.304 would allow 0.6 Ci or 3,969 lbs. of natural uranium to be disposed of by burial in the soil per year assuming the other conditions specified in that part were met. The licensee disposed of 3.5 times the quantity allowed by the regulation.

MAY 17 1974

We believe the licensee should be cited for a violation of 10 CFR 20.301. This, however, brings up the question of what would be an acceptable response and how we could reasonably expect Cotter to correct the situation. At the present time, the material is virtually unidentifiable and non-recoverable. We believe, that it is the licensee's responsibility to provide the Commission sufficient evidence through evaluation that leaving it where it is does not constitute an undue hazard to the public or the environment. The Commission should be in a position to specify the type of information and detail necessary so that the licensee's response can be judged as to its adequacy. It is our view that the consultation of Licensing and Standards will likely be necessary to develop the AEC position on this matter.

Another item of interest noted during the inspection is that the licensee is decontaminating the surface of the ground to 0.6 mr/hr as measured by a thin (1.4 mg/cm²) end window GM instrument. When questioned about it, a representative of the licensee's consultant firm said this was based on the permissible level of radiation allowed in unrestricted areas (100 mrem in any 7 consecutive days). We understand that much less than the 0.6 mr/hr radiation level (usually less than 0.1 mr/hr) was detected in all but one small area of the site at the time of the inspection. We are aware that guidelines exist for acceptable contamination levels for buildings and equipment, but we are not aware of any regulatory guidelines for levels of contamination acceptable for release of property to a non-licensee. Licensee representatives stated that they will shortly ask the Commission to terminate their license, and will at that time submit a survey of the site showing all radiation levels to be less than 0.6 mr/hr at the ground surface. We suggest that guidelines be established for levels of contamination acceptable for release of property to a non-licensee. These could be applied to the Cotter Corporation and also the other sites where similar materials are stored. We recommend these guidelines be sent to Cotter advising them of the applicability to the Hazelwood site.


James M. Allan, Chief
Radiological and Environmental
Protection Branch

Enclosure:
RO Inspection Rpt No. 74-01

cc: RO:HQ (4)
L:D/D for Fuel & Materials
DR Central Files
RO Files

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS

REGION III

RO Inspection Report No. 040-8035/74-01

Licensee: Cotter Corporation
P. O. Box 356
Golden, Colorado 80401

9200 Latty Avenue
Hazelwood, Missouri

License No. SUB-1022
Category: E
Priority: 3

Type of Licensee: Uranium ore residue storage and shipment

Type of Inspection: Announced, Reinspection

Dates of Inspection: April 10 and 21-24, 1974

Date of Previous Inspection: November 17, 1970

Principal Inspector: *W.H. Schultz*
for W. B. Grant

5-16-74
(Date)

Accompanying Inspectors: None

Other Accompanying Personnel: None

Reviewed By: *W.H. Schultz*
C. E. Norelius *for*
Senior Health Physicist
Materials Radiological
Protection Section

5-16-74
(Date)

SUMMARY OF FINDINGS

Enforcement Action

Contrary to the requirements of 10 CFR 20.301, disposal of licensed material made from July 31, 1973 through October 12, 1973, was in a manner not authorized. (Paragraph 4)

Licensee Action on Previously Identified Enforcement Items

During the last inspection on November 17, 1970, the licensee was cited for the following:

Contrary to 10 CFR 20.201(b), air sample surveys were inadequate to determine concentrations of airborne uranium ore materials to which persons were exposed during drying and loading operations at the Hazelwood, Missouri facility.

The drying operation ceased shortly after the inspection during which the violation was noted. A licensee representative stated that air samples were not taken while loading the remainder of the ore since it contained approximately 40% water and created practically no dust.

Unusual Occurrences

None.

Other Significant Findings

None.

Management Interview

Subsequent to the inspection, Mr. David P. Marcott, Executive Vice President and General Manager, Cotter Corporation, was contacted by telephone and given the results of the inspection. The apparent disposal of licensed source material in a manner not authorized was discussed as was the licensee's determination that the uranium content of residue ore was reduced to a non licensable percentage by the addition of quantities of soil.

REPORT DETAILS

1. Persons Contacted

David P. Marcott, Executive Vice President, Cotter Corporation
Phillip Feeney, Project Engineer, Ryckman, Edgerley, Tomlinson,
and Associates, St. Louis, Missouri
Warren Goff, Cotter Corporation, Health and Safety
John Fontecchio, Plant Accounting, Cotter Corporation
Bob Davis, B&K Construction Company, St. Louis, Missouri

Mr. Kenneth Miller, State of Missouri Bureau of Radiological
and Occupational Health was informed of the inspection on
April 2, 1974. No representative of that agency was present
during the inspection.

2. General Background Information

In early 1966, the Continental Mining and Milling Company, Chicago, Illinois, purchased from the AEC (Bid No. AT-(23-2)-52), ore residues which were stored at the St. Louis Airport. The material was moved from that site during 1966 to the 9200 Latty Avenue, Hazelwood, Missouri site. Continental Mining and Milling possessed License No. SMA-862 for this program. In January 1967, the Commercial Discount Corporation of Chicago, Illinois, took physical possession of the Continental Mining and Milling Company facilities and source material stockpile. License No. SMC-907 was issued to Commercial Discount Corporation on December 29, 1966, allowing possession of the residues, removal of moisture, and shipment to the Cotter Corporation facilities in Canon City, Colorado. In December 1969, the remaining source material was sold to Cotter Corporation who obtained License No. SUB-1022. The Commission's invitation to Bid No. AT-(23-2)-52 dated January 10, 1964, listed the following residues: 74,000 tons of Belgian Congo Pitchblend Raffinate containing about 113 tons of uranium; 32,500 tons of Colorado Raffinate containing about 48 tons of uranium; 1500 tons of barium sulfate cake (unleached) containing about 22 tons of barium sulfate cake (leached) containing about 7 tons of uranium; and approximately 350 tons of miscellaneous residues containing about 2 tons of uranium.

RO:III inspected this licensed program on November 17, 1970. At that time, the licensee was in the process of drying and shipping residues to the Colorado facility. One violation, as described earlier in this report, was noted.

3. Organization and Administrative Control

Mr. David P. Marcott is Executive Vice President and General Manager of Cotter Corporation. The corporation moved its home office to P. O. Box 356, Golden, Colorado, in 1972. The licensee has an agreement with B&K Construction Company, St. Louis, to maintain control over the site and to remove material in accordance with direction from the licensee. The licensee has also contracted a consultant firm Ryckman, Edgerley, Tomlinson, and Associates of St. Louis, to handle the health physics and decontamination of the Hazelwood site.

4. Program

In August 1970, Cotter Corporation began drying and shipping the remaining residues from the St. Louis site, to their mill in Canon City, Colorado, at the rate of about 400 dry tons of material per day. This operation which was performed for Cotter by B&K Construction Company continued until about November 1970 when problems with the dryer, used to reduce the moisture content of the ore caused a halt in activities.

According to reports, records, and interviews with licensee representatives all of the remaining residues were shipped during the August to November period with the exception of approximately 10,000 tons of Colorado raffinate and 8700 tons of leached barium sulfate.

B&K Construction Company representative stated that his original instructions from Cotter Corporation were to load and ship the piles of ore residue according to location and color. He said the residues were distinctly different in color and the yellowish Congo raffinate plus the Colorado raffinate (reddish) were shipped as instructed to Canon City. The leached barium sulfate (whitish) was not shipped.

According to licensee representatives, the site remained unoccupied until mid 1973 when the remaining Colorado raffinate was shipped to Canon City without drying. The only residue then remaining at the site was the 8700 tons of leached barium sulfate. Records maintained by Cotter Corporation showed that this material contained from 0.05% to 0.1% or approximately 7 tons of uranium as U_3O_8 . Licensee representatives stated, and records of invoices paid to B&K Construction Company show, that this material along with approximately 38,000 to 39,000 tons of soil removed from the top

- 12 to 18 inches of the Latty Avenue site was disposed of in
- St. Louis County sanitary land fill area No. 1 on Old Bridge Road over the period July 31 through October 12, 1973. Based on this information, the licensee is in violation of 10 CFR 20.301 "Waste Disposal, General Requirement" in that he disposed of licensed material in a manner not authorized.

A B&K Construction Company representative said that, as directed by Cotter Corporation, the barium sulfate cake material was spread over a considerable portion of the site and then removed along with the top soil. He added that he thought that this was done to reduce the weight, as the cake material was very heavy and he did not want to fill a truck with only this material.

This material was hauled to the land fill area and used as cover for part of the several hundred truckloads of garbage and refuse that are shipped to the land fill area site every week. The licensee estimates that the barium sulfate is probably buried under 100 feet of garbage at this time. The trucks were hosed out after hauling this material.

5. Facilities and Equipment

The plot of ground known as 9200 Latty Avenue, Hazelwood, Missouri consists of a 3.5 acre plot on which four buildings are located and a 7.5 acre plot which was used for the storage of the ore residues. The larger plot is leased from the Norfolk and Western Railway Company which also has a spur line adjacent to the licensee's facility. One building, used formerly as the office and living quarters, is completely boarded up. The other three are empty and in a bad state of repair.

All the loading and drying equipment was said to have been hosed down after completion of the operation. It was either in storage at B&K Construction Company's yard, St. Ann, Missouri or had been sent to Canon City, Colorado. The residue piles appeared to have been removed and the ground returned to at or near its original level. Radioactive Material signs were noted to be in place along the fence line but the gates were open and some of the fence line had been knocked down.

6. Surveys

Representatives of the licensee stated that no surveys or assays of the material removed were made. It was segregated through location

and color only. The only surveys were those made of the remaining land surface to determine if it read less than 0.6 mr/hr at the surface as measured by a thin (1.4 mg/cm²) end window GM instrument. A representative of Ryckman, Edgerley, Tomlinson, and Associates stated that if the survey showed 0.6 mr/hr or less, no further removal of soil was done. If it was higher, soil was removed until the radiation was 0.6 mr/hr or less. He added that B&K Construction removed the top 12-18 inches of the site and in most cases, backfilled to the original level before any surveys were made. He said only one small 10 foot by 10 foot area was found above 0.6 mr/hr and that the rest of the area averaged less than 0.1 mr/hr.

JUL 1 1971

Ulysses M. Staehler, OCM

COTTER CORPORATION -- RADIOACTIVE WASTE DISPOSAL PROPOSAL

On June 27, 1971, Messrs. McGrath and Marcott of the Cotter Corporation met with members of our regulatory staff to discuss possible on-site burial of radioactive wastes at their Hazelwood, Missouri, site. At that time it was explained that before we would be able to determine whether, and under what conditions, such burial could be authorized we would need a complete description of:

1. The radioactive wastes involved (including principal radioisotopes and activities).
2. The proposed method of burial.
3. The burial site, including geographic, hydrologic, and geochemical parameters which might affect migration of the radioactive material from the site.

It was also pointed out that Cotter Corporation might be required to provide for perpetual maintenance of such a burial site and submit an environmental statement in accordance with the National Environmental Policy Act if it appeared that this on-site burial could significantly affect the quality of the human environment.

Since the June 29, 1971, letter from Mr. McGrath indicates that Cotter Corporation is preparing to submit more detailed information on their proposal, you may wish to include in your reply to this letter the enclosed documents, entitled "Licensing Requirement for Establishment of a Land Burial Facility for Burial of Radioactive Wastes" and

9609040314 710722
PDR ADOCK 040CB035
C PDR

OFFICE ►

SURNAME ►

DATE ►

Ulysses M. Staebler

"Guidelines for Decontamination of Facilities and Equipment Prior
to Release for Unrestricted Use or Termination of Licenses for
Byproduct, Source, or Special Nuclear Material."

Original Signed by

Chris L. Henderson

C. L. Henderson

Assistant Director of Regulation
for Administration

Enclosures:

1. Licensing...
2. Guide...

bcc: CLHenderson
GERtter (DR #5571)
PECunningham
DMI.
DR
St. Br. Distr.

| | | | | | | |
|-----------|-------------|--------------|-------------|----|--|--|
| OFFICE ▶ | DMI:MB | DMI:ADIP. | DR | | | |
| SURNAME ▶ | JCMalaro/kp | PECunningham | CLHenderson | | | |
| DATE ▶ | 7/19/71 | 7/19/71 | 7/22/71 | PP | | |

Ulysses H. Staebler, OCM

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Ulysses M. Staabler

2

"Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material."

C. L. Henderson
Assistant Director of Regulation
for Administration

Enclosures:
As stated

bcc: CHenderson
GErtter (DR #3570)
RCunningham
DML
St. Br. Distr.

| | | | |
|-----------|-------------|-------------|------------|
| OFFICE ▶ | DML:MB | DML:ADIR. | DR |
| SURNAME ▶ | JCMalaro/kp | RCunningham | CHenderson |
| DATE ▶ | 7/16/71 | 7/ /71 | 7/ /71 |

LAW OFFICES
EDWARD J. McGRATH
260 EAST JEFFERSON STREET
ROCKVILLE, MARYLAND 20850

TELEPHONE 428-4707

June 29, 1971

The Honorable Wilfrid E. Johnson
U.S. Atomic Energy Commission
Washington, D.C. 20545

Re: Cotter Corporation- Radioactive Waste Disposal Proposal

Dear Commissioner Johnson:

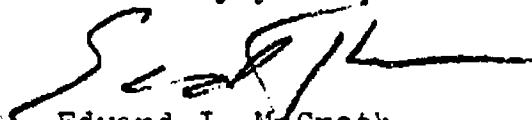
Pursuant to your suggestion made during our conference on June 24, 1971, I am enclosing copies of the correspondence between Cotter Corporation and the Commission relating to the disposal of radioactive waste materials owned by the corporation, which are now located in Hazelwood, Missouri.

I am also enclosing copies of a preliminary proposal for on site burial prepared for Cotter Corporation by the engineering firm of Ryckman, Edgerley, Tomlinson and Associates, Inc., together with a copy of a memorandum by Mr. Warren Goff, Safety Engineer for Cotter Corporation, reporting on the conference between representatives of Cotter Corporation and Nuclear Engineering Company, during which the latter firm gave an estimate of \$2,000,000.00 for burial of the waste material at the site owned by that firm in Illinois.

As Mr. Marcott advised, we are preparing to submit more detailed information to the Commission on the proposal for burial at the present site in Hazelwood, Missouri. We will furnish you with copies of further submissions and correspondence.

On behalf of Mr. Marcott, Cotter Corporation, and myself, I wish to thank you for providing us with an opportunity to discuss with you the problems and public policy issues which surround our efforts to dispose of the waste materials safely and quickly.

Sincerely yours,



Edward J. McGrath
Attorney for Cotter Corporation

EJM/dkb
Enclosures

9609040355 710629
PDR ADOCK 04008035
PDR

LAW OFFICES
EDWARD J. McGRATH
260 EAST JEFFERSON STREET
ROCKVILLE, MARYLAND 20850
703-424-4101

April 23, 1971

Mr. Robert W. Hollingsworth,
General Manager
United States Atomic
Energy Commission
Washington D.C. 20545

Re: Cotter Corporation -
Waste Disposal Project

Dear Mr. Hollingsworth:

Based upon the facts and circumstances hereinafter set forth, Cotter Corporation hereby makes application for authority to dispose of radioactive waste material described below by depositing the same in the abandoned quarry utilized for such disposal on the property owned and controlled by the Atomic Energy Commission at Weldon Spring, Missouri.

Cotter Corporation, in 1967, purchased from a private concern a substantial quantity of radioactive residues stored at that time at the so called "airport site" in St. Louis, Missouri for the purpose of reprocessing that portion of the material which was amenable to treatment in the uranium mill of Cotter Corporation located in Canon City, Colorado.

The residues purchased were the product of earlier Commission operations, and represented a substantial problem at the time when they were acquired by Cotter Corporation, because the firm which purchased them from the Commission and from which Cotter Corporation acquired them had done so speculatively, without a program for disposition, and subsequently terminated its business activities.

Included in the residues was certain material for which no utilization then existed, or now exists. Cotter Corporation has transported and processed all of the waste material which was amenable to treatment and made arrangements for disposition of a large quantity of unusable loose material.

There remains for disposition approximately one thousand (1,000) drums filled with contaminated trash, that is, items such as bricks, clothing, boots, gloves and the like. The drums are currently located at Hazelwood, Missouri.

9609040366 710428
PDR ADOCK 04008035
C PDR

Cotter Corporation, if authorized by the Commission to do so, will transport the drums by truck from Hazelwood, Missouri to the quarry site at Weldon Spring (a distance of approximately thirty (30) miles) and deposit them in the quarry, subject to Commission advice and direction, and at the expense of the corporation.

We believe deposit in the quarry to be the most satisfactory resolution of all substantial problems involved in disposition of the contaminated material. Among the factors which dictate our conclusion are that the quarry site is utilized by the Commission for disposal of similar contaminated material; that no conflict exists in this situation with the Commission policy against engaging in operations competitive with private industry, since existing privately operated waste disposal facilities are not designed in capacity or otherwise for disposition of material in the quantity and form involved in this situation; that the distance to the nearest commercial disposal site, even were it capable of handling the material is two hundred (200) miles as opposed to a distance of thirty (30) miles from Hazelwood to Weldon Spring, and finally the very substantial difference in expense in disposal other than at Weldon Spring quarry, even if such alternatives were otherwise feasible.

We request the opportunity to present and discuss this proposal with you and with those of the Commission staff concerned with the several aspects involved.

Very truly yours,

Edward J. McGrath
Attorney for Cotter
Corporation

BJW/an

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

MAY 24 1971

RECEIVED

MAY 25 1971

E. J. McGRATH

Mr. Edward J. McGrath
255 East Jefferson Street
Rockville, Maryland 20850

Dear Mr. McGrath:

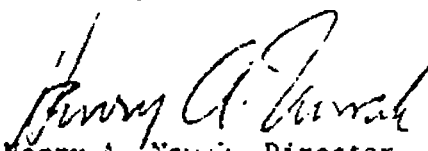
This is in response to your letter of April 26, 1971, proposing to dispose of certain radioactive wastes owned by the Cotter Corporation in an AEC-owned quarry at Weldon Spring, Missouri. Your letter states, in part, that

"... no conflict exists in this situation with the Commission policy against operations competitive with private industry, since existing privately operated waste disposal facilities are not designed in capacity or otherwise for disposition of material in the quantity and form involved in this situation ..."

This statement raises some questions on which we would appreciate further information. First, what is the intent of the phrase "or otherwise?" Does it mean that the licensed burial ground operators could not handle the material within the safety requirements of their present licenses? Second, is the judgment expressed in this statement that of the Cotter Corporation or that of the licensed burial ground operators? More specifically, have the three licensed burial ground operators (Nuclear Engineering, Nuclear Fuel Services, and Chem-Nuclear Services) stated that they could not handle the material?

We would appreciate your views on these points in order to consider the proposal further.

Sincerely,


Henry A. Nowak, Director
Division of Waste and
Scrap Management

9609050001 710524
PDR ADOCK 04008035
C PDR



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

June 28, 1971

MEMORANDUM FOR THE FILES

SUBJECT: MEETING WITH REPRESENTATIVES OF COTTER CORPORATION

At the request of Senator Peter Dominick (Colorado), Commissioner Johnson met with David Marcott, Executive Vice President, and Edward McGrath, Washington Counsel, for Cotter Corporation on June 24, 1971. Others attending were Dr. Martin Biles and U. M. Staebler. Messrs. Marcott and McGrath had previously met with personnel from the Division of Materials Licensing and Waste and Scrap Management.

Cotter Corporation acquired radioactive residues from early AEC milling operations which had been moved from the St. Louis Airport to Hazelwood, a site in metropolitan St. Louis, by a Baltimore Corporation which went bankrupt. The material was acquired from Cr. Special Discount, the financier of the original purchase from the AEC. Selected materials were sent to a plant at Canyon City for recovery of valuable minerals. Cotter has about 15,000 tons of materials to be disposed of in addition to about a thousand drums of contaminated materials which can be disposed of commercially at a reasonable cost. They are committed to restore the property on which the material is stored but have found that disposal on-site is not acceptable under present regulations. The \$150,000 they had allowed for on-site disposal is to be compared with an estimate of \$2 million they have received from Nuclear Engineering for commercial disposal at a site about 200 miles away.

Mr. Marcott would like to dispose of the material at the quarry formerly used by the AEC near the St. Louis operations which is about 30 miles from the Hazelwood site. Dr. Biles reviewed the situation at the quarry, concluding that disposal there would not be acceptable. The basis for the estimate of \$2 million for disposal by Nuclear Engineering was not known but it did not seem consistent with the usual charge of about \$0.70 per cu. ft. for commercial disposal plus transportation. (Separate information indicates this estimate may include decontamination of buildings at the site.) Dr. Biles suggested that transporting the material to Colorado

and adding it to existing piles of tailings there might be worth exploring since the material is similar and would be quite small in quantity relative to these piles.

It was agreed that:

- a) Both Cotter and AEC (Biles) would look into the feasibility of disposal on other tailings piles (including licensing).
- b) Cotter would provide a breakdown of the \$2 million estimate from Nuclear Engineering.
- c) AEC (Biles) would investigate the basis being used for private commercial disposal -- in particular whether pricing on a unit volume basis was reasonable for this kind of material.
- d) Cotter would provide a summary of the history of the material and the contract obligations relative to ultimate disposal associated with the various transfers.

U. M. Staebler

U. M. Staebler

cc: General Manager
Dr. Martin Biles, OS
R. O'Neill, Cong. Rel.
H. Nowak, WSM
C. Henderson, DR



UNITED STATES
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

June 28, 1971

MEMORANDUM FOR THE FILES

SUBJECT: MEETING WITH REPRESENTATIVES OF COTTER CORPORATION

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U. M. Staebler

U. M. Staebler

cc: General Manager
Dr. Martin Biles, OS
R. O'Neill, Cong. Rel.
H. Nowak, WSM
C. Henderson, DR



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D. C. 20545

JUL 9 1971

Files

MEETING WITH REPRESENTATIVES OF THE COTTER CORPORATION

On June 24, 1971, I met in R. E. Cunningham's office with Edward J. McGrath and David P. Marcott of the Cotter Corporation of Roswell, New Mexico. Mr. Cunningham was present for part of the meeting. The purpose of the meeting was to discuss the possibility of Cotter Corporation obtaining AEC authorization for on-site burial of radioactive waste at their storage site in Hazelwood, Missouri. According to Mr. Marcott, waste consisting of about 10,000 tons of low grade uranium ore and a number of drums filled with contaminated clothing and equipment is now being stored at this site. The material is evidently residue remaining from ores purchased from the Atomic Energy Commission in 1966. The bulk of the original ore has been shipped by the Cotter Corporation to their Canning City, Colorado mill for processing.

Mr. Marcott stated that Cotter Corporation is considering burying this waste on-site under four feet of earth. The surface of the site would then be covered with an asphalt topping. He pointed out that the proposed burial site is in the center of a rapidly growing industrial area. I explained that before we will be able to determine whether and under what conditions such burial could be authorized, we would need the following information:

1. A description of the waste, including principal radioisotopes and their activities.
2. A complete description of the proposed method of burial.
3. A complete description of the burial site including geological, hydrological and geochemical parameters which might affect migration of the radioactive materials from the site.

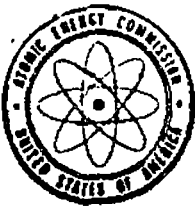
I explained that under the National Environmental Policy Act of 1969 we would be obliged to consult with other Federal, state and local agencies concerning any action which could significantly affect the quality of the human environment and that we might, depending on the nature and extent of the proposed burial operation, have to ask Cotter

JUL 9 1971

Corporation to submit a detailed environmental statement. I also explained that commercial waste burial could only be allowed after provision has been made for assuring perpetual maintenance of the site (i.e., state or Federal ownership of the site). Mr. McGrath asked if this would apply to the proposed burial by the Cotter Corporation. I said that I didn't think a decision could be made until we had a chance to study the details of the Cotter proposal.

Mr. Marcott seemed to be relieved to find that obtaining authorization would not be an easy matter. In fact, he indicated that Cotter Corporation would, if possible, prefer to ship the material to a nearby AEC operated site for disposal. He did indicate, however, that they might submit formal application to the AEC to find out definitely what restrictions we would impose.

J. C. Malero
Materials Branch
Division of Materials Licensing



UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TELEPHONE
(312) 858-2560

November 17, 1970

James M. Allan, Senior Radiation Specialist

HEALTH PHYSICS ANALYSIS - COTTER CORPORATION
LICENSE NO. SUB-1022

At the time of this inspection, the licensee representatives advised that they are approximately 2/3 finished with the removal of all the ore residues located at the Hazelwood, Missouri, site. They hope to complete the operation by the end of calendar year 1970. They believe this target date can be accomplished barring unforeseen mechanical difficulties or adverse weather conditions.

There appears to be only one significant health and safety problem at present during this moisture removal and loading operation. This problem relates to the inadequate air sampling as performed by the licensee's consultant. It appears that the licensee's consultant is performing these surveys with industrial hygiene matters in mind and have not sampled or analyzed the samples with 10 CFR 20 as the radiation safety standard. Air sampling devices are run until the filter paper has collected enough material such that it must be scraped off and analyzed by either weighing and/or slurrying. No direct counting has been made of the air sample filter paper itself. The condition of the source material being handled does not, however, appear to cause a significant hazard to personnel in the area. The material begins in a wet dirt or a clay consistency containing about 80% water by weight and is dried to about 40% water content. The end product of this operation has a consistency which approximates sand or cinders.

The consulting firm employed by the licensee is principally involved in industrial and chemical waste problems and cannot be considered, in the opinion of this inspector, as health physics consultants, as such.

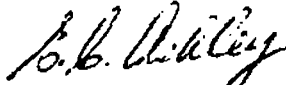
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C PDR

James M. Allan

- 2 -

November 17, 1970

Although the air sampling program is inadequate, the three persons who are assigned to work in the immediate area of the drying and loading operations are required to wear respirators during this work.



E. C. Ashley
Radiation Specialist

NOV 13 1974

DISTRIBUTION:

PDR
LPDR
State Health Official
L:FM R/F
L:FFRB#1 R/F
LCRouse
WTCrow
HWerner
ACabell
BBrooks
RO:HQ (2)
LNUnderwood
RGPage

L:FFRB:WTC
40-8035
SUB-1022

Cotter Corporation
ATTN: Mr. David P. Marcott
Executive Vice President
P. O. Box 355
Golden, Colorado 80401

Gentlemen:

In accordance with your application dated May 10, 1974 and pursuant to Title 10, Code of Federal Regulations, Part 40, Source Material License No. SUB-1022, is hereby terminated.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by
Leland C. Rouse

L. C. Rouse, Chief
Fuel Fabrication and Reprocessing
Branch No. 1
Directorate of Licensing

cc: Law Offices
Edward J. McGrath
201 North Frederick Avenue
Gaithersburg, Maryland 20760

X7427 OFFICE →

SURNAME →

L:FFRB#1

WTCrow:mh

L:FFRB#1

LCRouse

74052 000 84 XA 1 P

DML:DPH
40-8035

DEC 3 1969

Cotter Corporation
P. O. Box 1000
Roswell, New Mexico 88201

Attention: Mr. David P. Marcott
Executive Vice President and
General Manager

Gentlemen:

Enclosed is ABC Source Material License No. SUB-1022.

Sincerely,

Original signed by
Don P. Harmon

Don P. Harmon
Source and Special Nuclear
Materials Branch
Division of Materials Licensing

Enclosures:
As stated

DISTRIBUTION:
PDR, w/encl.
State Health (license only)
Docket file, w/encl.
Branch R/F, w/encl.
Division R/F, w/o encl.
Harmon's R/F, w/encl.
CO, Region IV, w/encl.
N. Doulos, DML

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|---------|--------------|--|--|--|--|--|
| OFFICE | DML | | | | | |
| SURNAME | DPHarmon/dmb | | | | | |
| | 12/30/69 | | | | | |

UNITED STATES
ATOMIC ENERGY COMMISSION

SOURCE MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations, Chapter 1, Part 40, "Licensing of Source Material," and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, possess and import the source material designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954 and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission, now or hereafter in effect, including Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation," and to any conditions specified below.

| | | |
|--|--|--|
| Licensee 1. Name Cotter Corporation 2. Address P. O. Box 1000 Roswell, New Mexico 88201 | | 3. License No. SUB-1022 |
| | | 4. Expiration Date December 31, 1974 |
| | | 5. Docket No. 40-8035 |
| 6. Source Material Uranium | 7. Maximum quantity of source material which licensee may possess at any one time under this license Unlimited | |

CONDITIONS

8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.)

For use in accordance with the procedures described in the licensee's application dated December 16, 1969.

9. Authorized place of use: The licensee's facility located at 9200 Latty Avenue, Hazelwood, Missouri.

54
12/30/69

For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance **DEC 3 1969**

Original signed by
Don F. Harmon

DML:DPH

~~40-7603~~

40-8625

DEC 8 1969

DISTRIBUTION:

PDR

Docket file

Branch R/F

Division R/F

CO, Region IV

Harmon's R/F

N. Boules, DML

Cotter Corporation
P. O. Box 1000
Roswell, New Mexico 88201

Attention: Mr. C. L. Pasquier, Jr.
Legal Department

Gentlemen:

This is in reply to your letter of November 18, 1969.

Regarding your activities in Colorado, the AEC has entered into an "agreement" with the State of Colorado whereby the State has assumed regulatory authority over source material activities in Colorado, including those activities authorized under License No. R-197. Therefore, a new AEC license would be required for any proposed activity by Cotter Corporation at Hazelwood, Missouri, since, as indicated above, the AEC no longer has authority to amend License No. R-197. As provided by Section 40.51 of the enclosed 10 CFR 40, an application for an AEC source material license should be filed using the enclosed Form ABC-2.

With regard to your question concerning renewal of License No. SMC-907, Commercial Discount Corporation should maintain its license until such time as the company has transferred all licensable material in its possession. Commercial Discount Corporation should either request that its license be renewed or the expiration date be extended. If an extension of the expiration date is requested, the length of the extension should be of sufficient time to allow Cotter Corporation to obtain its license to authorize the possession and use of the material located at Hazelwood.

Please let me know if you have any questions concerning the above.

Sincerely,

Original signed by
Don. F. Harmon

9609050039 741113
PDR ADOCK 04008035
C PDR

Don F. Harmon
Source and Special Nuclear
Materials Branch
Division of Materials Licensing

Enclosures:

1. 10 CFR 40

2. Form ABC-2

SURNAME >

DATE >

DML

DFH/mon/db

12/8/69

DML:DPH
~~40-7603~~

40-8655

DEC 8 1969

DISTRIBUTION:

PDR
Docket file
Branch R/F
Division R/F
CO, Region IV
Harmon's R/F
N. Douglas, DML

Cotter Corporation
P. O. Box 1000
Roswell, New Mexico 86201

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Sincerely,

Original signed by
Don F. Harmon

9609050039 741113
PDR ADOCK 04008035
C PDR

Don F. Harmon
Source and Special Nuclear
Materials Branch
Division of Materials Licensing

Enclosures:

1. 10 CFR 40
2. Form ABC-2

SURNAME >

DATE >

DML

DFH:Harmon/db

12/8/69

LAW OFFICES

EDWARD J. McGRATH201 NORTH FREDERICK AVENUE
GAITHERSBURG, MARYLAND 20780

(301) 948-2480

September 12, 1974



W. Burkhardt, Senior Chemical Engineer
Fields, Fabrication and Reprocessing Branch
Licensing and Regulatory Division
UNITED STATES ATOMIC ENERGY COMMISSION
Room 435, East West Towers
Washington, D. C. 20545

Re: Cotter Corporation, Source Materials License
Number SUB-1022

Dear Mr. Burkhardt:

We continue to be most anxious to clarify and resolve the status of our application to surrender the license held by Cotter Corporation in connection with storage of the residues located at the Latty Avenue site in St. Louis. As you know we have a number of correspondents whose interest in the matter at least equals ours.

We look forward to hearing from you at your earliest convenience.

Sincerely yours,



Edward J. McGrath

EJMcG/jmc

Copy to:

David P. Marcott, President
Cotter Corporation



FROM: **Edward J. McGrath**
201 North Frederick Ave.
Gaithersburg, MD

DATE OF DOCUMENT:
Sept. 12, 1974

DATE RECEIVED
Sept. 16, 1974 **1974**

LTR. MEMO REPORT OTHER

X

TO:

ORIG CC OTHER

1

W. Burkhart

ACTION NECESSARY ☐ CONCURRENCE ☐ DATE ANSWERED
NO ACTION NECESSARY ☐ COMMENT ☐ BY:

CLASSIF POST OFFICE

FILE CODE

REG NO.

Doclog No. 40-0015

DESCRIPTION (Must Be Unclassified)

REFERRED TO DATE RECEIVED BY DATE

ltr. trans: sta use of appl. to
surrender the license held by Cottor
Corp.

Miller
2-entree

9-26

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FOR
ED

ENCLOSURES

REMARKS

1974 **oct**

U.S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC 3269 (8 60)

40-8035

LAW OFFICES

EDWARD J. McGRATH

201 NORTH FREDERICK AVENUE
GAITHERSBURG, MARYLAND 20760

(301) 948-2480

May 10, 1974



W. Burkhardt, Senior Chemical Engineer
Fuels Fabrication & Reprocessing Branch
Licensing, Regulatory
Room 435, East-West Towers
UNITED STATES ATOMIC ENERGY COMMISSION
Washington, D. C. 20545

Re: Cotter Corporation, Source Materials License No. SUB-1022

Dear Mr. Burkhardt:

We enclose four copies of the Certification of Status with respect to the source materials license of Cotter Corporation and constituting notification that the corporation no longer possesses any radioactive material subject to United States Atomic Energy Commission licensing requirements.


Submitted in connection with the certification is a letter from Phillip K. Feeney, P.E., of the firm of Ryckman, Edgerley, Tomlinson & Associates, Inc., consulting environmental engineers, to which are attached plats of the Latty Avenue storage site where the licensed material formerly held by Cotter Corporation was deposited. The plat which we have marked "Attachment A" indicates the locations of the buildings and of the materials which were stored on the site. The plat which we have marked "Attachment B" contains the results of a radiological survey conducted by Ryckman, Edgerley, Tomlinson & Associates, Inc. subsequent to removal of all materials stored on the sight.

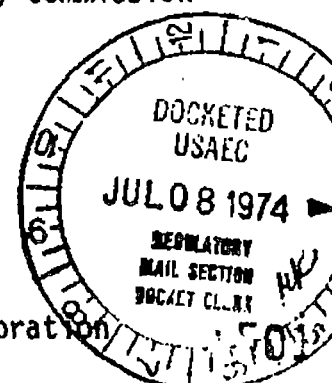
Based upon the work performed by Cotter Corporation, the work of contractors hired by Cotter Corporation in connection with removal and cleanup, and upon the monitoring of Ryckman, Edgerley, Tomlinson & Associates, Inc., we are of the opinion that the Latty Avenue storage site and all appurtenances have been decontaminated. Cotter Corporation has removed to its mill in Colorado all materials with radioactivity levels meeting or exceeding that which subjects holders to license requirements.

Since all source materials now owned or held by Cotter Corporation are situated in Colorado, and subject to the license issued to the corporation by the State of Colorado, we request at this time that the United States Atomic Energy Commission source materials license issued to Cotter Corporation be terminated.

Please contact me should you wish further information.

Sincerely yours,


Edward J. McGrath
Attorney for Cotter Corporation



EJMcG/jmc

Copy to: David P. Marcott

FROM:

Cetter Corporation
North Frederick Avenue
Gaithersburg, Maryland 20760

DATE OF DOCUMENT:

May 10, 1974

DATE RECEIVED

May 14, 1974

NO.:

1501

LTR.

MEMO:

REPORT:

OTHER:

X

TO:

Burkhardt, Fuels & Fab.
USAEC

ORIG.:

CC:

OTHER:

ACTION NECESSARY

☐

CONCURRENCE

☐

DATE ANSWERED:

NO ACTION NECESSARY

☐

COMMENT

☐

BY:

CLASSIF:

U

POST OFFICE

REG. NO:

FILE CODE:

Jacket 40-8135

DESCRIPTION: (Must Be Unclassified)

Certification of Status with respect to
SME constituting notification that
corp. no longer possesses radioactive
subject to AEC licensing requirements
ENCLOSURES:

REFERRED TO

DATE

RECEIVED BY

DATE

HOUSE/1 extra
Distribution:

7-8-74

MR1

Burkhardt

Reg. File cy

FBI

NO

REMARKS:

1501

U.S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC-3849 (8-60)



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

CERTIFICATION OF STATUS OF SOURCE MATERIAL ACTIVITIES
UNITED STATES ATOMIC ENERGY COMMISSION

LICENSE NUMBER
SUB-1022

LICENSEE: Cotter Corporation

ADDRESS: P. O. Box 352, 11011 W. 6th Avenue, Suite 302, Lakewood, Colorado

The licensee and any individual executing this certification on behalf of the licensee certify that (check appropriate item(s) below):

☐ No source materials have been procured and/or possessed by licensee.

☒ All source materials procured and/or possessed by licensee under Source Material License No. _____ ;

☐ (1) have or will be prior to expiration of the above license transferred to _____
(Institution, firm, hospital, person, etc.)

_____ which has Source Material License No. _____

☒ (2) have been or will be disposed of in compliance with 10 CFR 20 prior to expiration of this license.



Certifying Official

EDWARD J. McGRATH, Attorney for Cotter Corporation

Date: May 9, 1974

Please return 4 copies to:
U. S. Atomic Energy Commission
Materials Branch, Directorate of
Licensing
Washington, D. C. 20545

St. Louis, Missouri 63141
(314) 434-6960
Cable: RETA STL



Ryckman/Edgerley/Tomlinson & Associates, Inc.

May 1, 1974
RETA-780

Mr. David P. Marcott
Executive Vice President
Cotter Corporation
Post Office Box 352
Golden, Colorado 80401

Dear Dave:

Attached are two (2) sketches of the Latty Avenue Storage Site. The first depicts the original placement of the residues and buildings. Building "D" was the only building used for the actual drying operation.

The second sketch shows level of activity (MR/hr.) on April 29, 1974, after decontamination had been completed. As you can see, all of the locations fall below the allowable 0.6 MR/hr. (approximately 2,000 counts per minute) level.

If you have any questions or comments, or require additional information, please contact me.

Very truly yours,

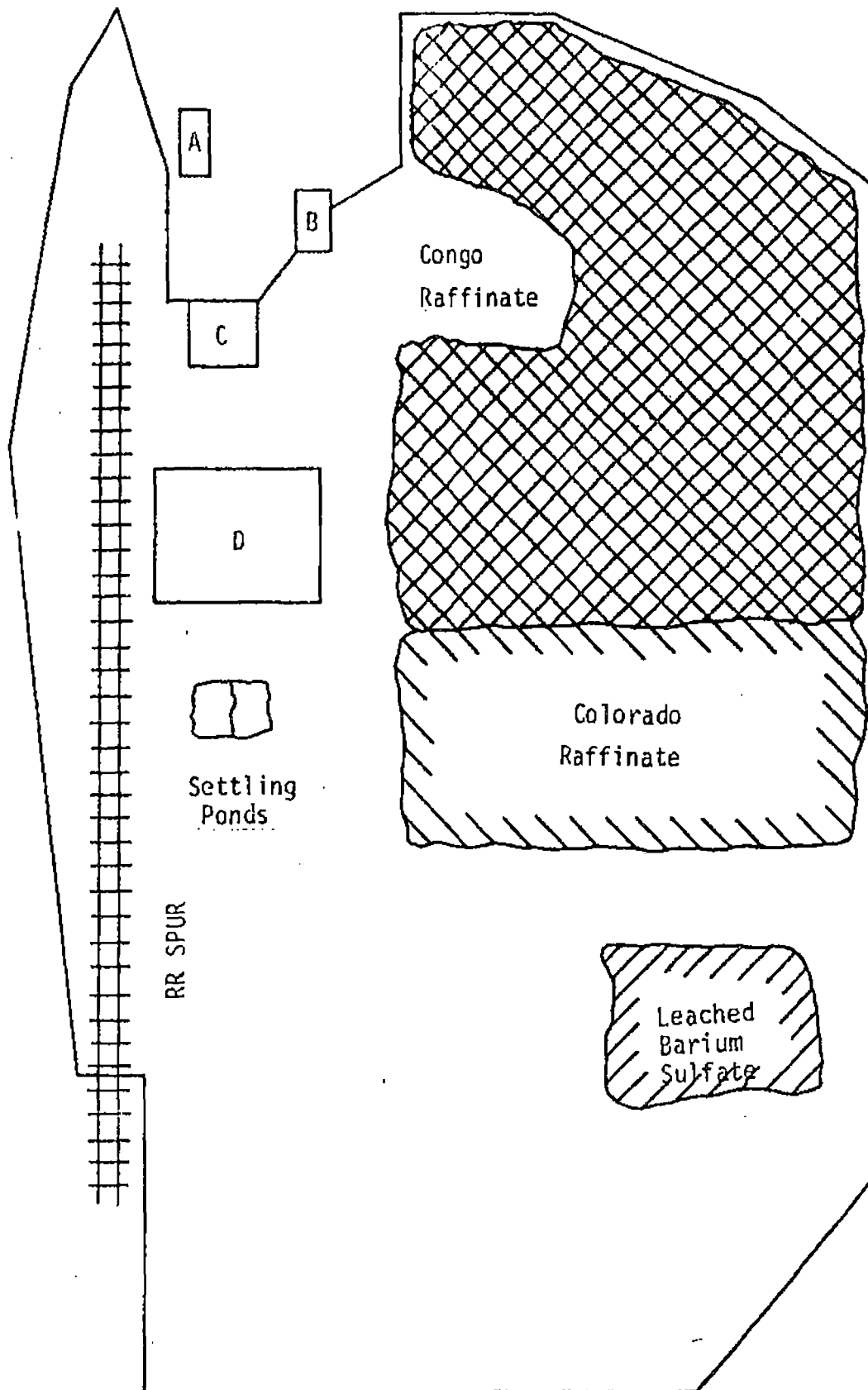
Phillip K. Feeney/pac
Phillip K. Feeney, P.E.
Associate

Enclosures

PKF:pac

Offices:
McLean,
Virginia
(Washington, D. C.)
Dayton,
Ohio
Memphis,
Tennessee
Denver,
Colorado
Tampa,
Florida
New Orleans,
Louisiana
Arlington,
Texas
(Dallas-Ft. Worth)
Houston,
Texas
Casper,
Wyoming
Chicago,
Illinois
Northumberland,
England
Rome,
Italy

Latty Avenue



Sketch not to scale

COTTER CORPORATION
LATTY AVENUE STORAGE SITE
HAZLEWOOD, MISSOURI

Latty Avenue

Yellow
BR.

A

B

C

D

RR SPUR

RADIATION MONITORING SURVEY

Values of Gross Activity in MR/hr. at
approximately three feet above grade.

April 29, 1974

0.25

0.15

0.15

0.06

0.08

0.4

0.04

RETA



Sketch not to scale.

COTTER CORPORATION
LATTY AVENUE STORAGE SITE
HAZLEWOOD, MISSOURI



UNITED STATES
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

CERTIFICATION OF STATUS OF SOURCE MATERIAL ACTIVITIES
UNITED STATES ATOMIC ENERGY COMMISSION

LICENSE NUMBER
SUB-1022

LICENSEE: Cotter Corporation

ADDRESS: P. O. Box 352, 11011 W. 6th Avenue, Suite 302, Lakewood, Colorado

The licensee and any individual executing this certification on behalf of the licensee certify that (check appropriate item(s) below):

☐ No source materials have been procured and/or possessed by licensee.

☒ All source materials procured and/or possessed by licensee under Source Material License No. 1

☐ (1) have or will be prior to expiration of the above license transferred to _____
(Institution, firm, hospital, person, etc.)

_____ which has Source Material License No.

☒ (2) have been or will be disposed of in compliance with 10 CFR 20 prior to expiration of this license.


Certifying Official

EDWARD J. McGRATH, Attorney for Cotter Corporation

Date: May 9, 1974

Please return 4 copies to:
U. S. Atomic Energy Commission
Materials Branch, Directorate of
Licensing
Washington, D. C. 20545

St. Louis, Missouri 63141
(314) 434-6960
Cable: RETA STL



Ryckman/Edgerley/Tomlinson & Associates, Inc.

May 1, 1974
RETA-780

Mr. David P. Marcott
Executive Vice President
Cotter Corporation
Post Office Box 352
Golden, Colorado 80401

Dear Dave:

Attached are two (2) sketches of the Latty Avenue Storage Site. The first depicts the original placement of the residues and buildings. Building "D" was the only building used for the actual drying operation.

The second sketch shows level of activity (MR/hr.) on April 29, 1974, after decontamination had been completed. As you can see, all of the locations fall below the allowable 0.6 MR/hr. (approximately 2,000 counts per minute) level.

If you have any questions or comments, or require additional information, please contact me.

Very truly yours,

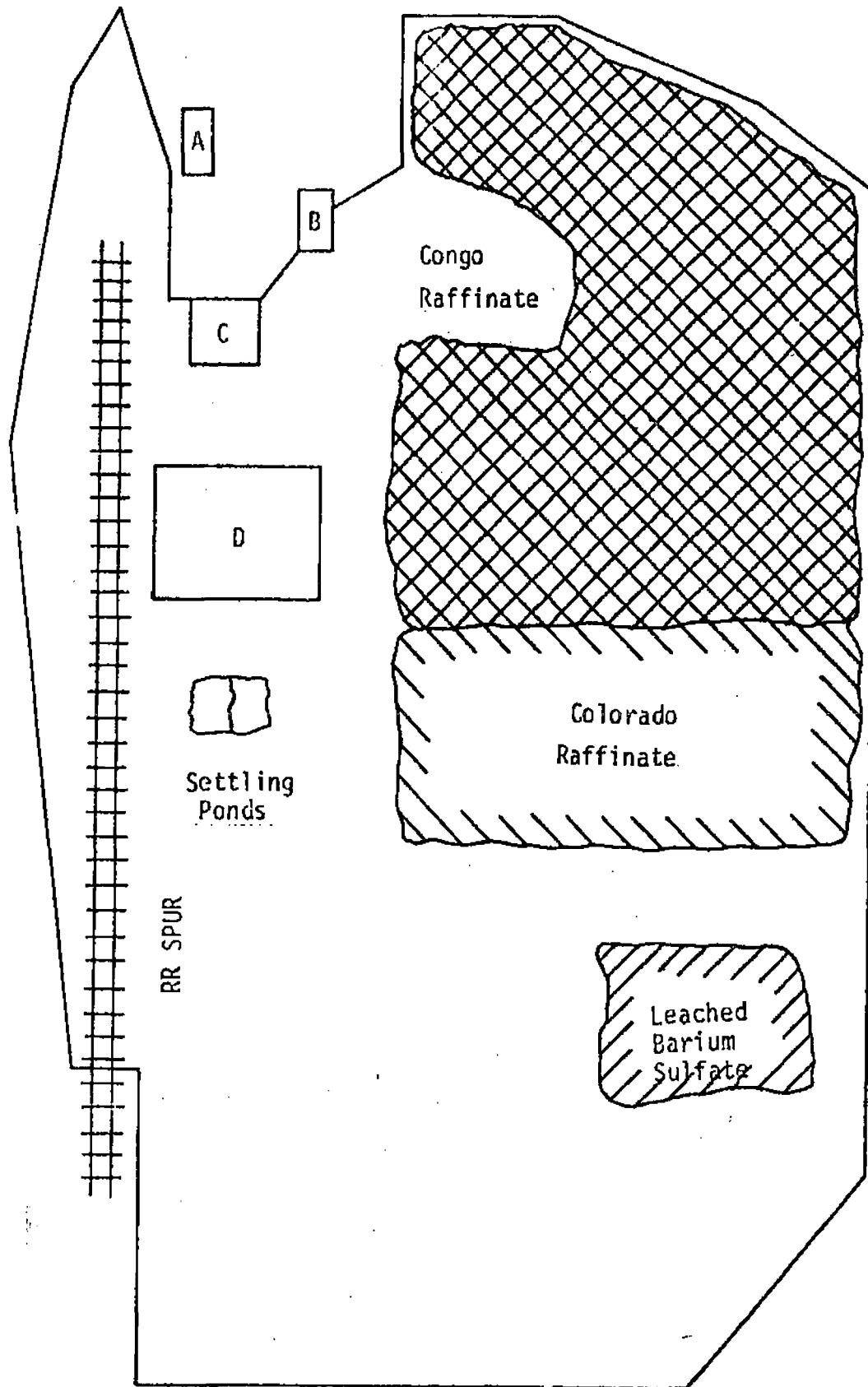
Phillip K. Feeney/pac
Phillip K. Feeney, P.E.
Associate

Enclosures

PKF:pac

Offices:
McLean,
Virginia
(Washington, D. C.)
Dayton,
Ohio
Memphis,
Tennessee
Denver,
Colorado
Tampa,
Florida
New Orleans,
Louisiana
Arlington,
Texas
(Dallas-Ft. Worth)
Houston,
Texas
Casper,
Wyoming
Chicago,
Illinois
Northumberland,
England
Rome,
Italy

Latty Avenue

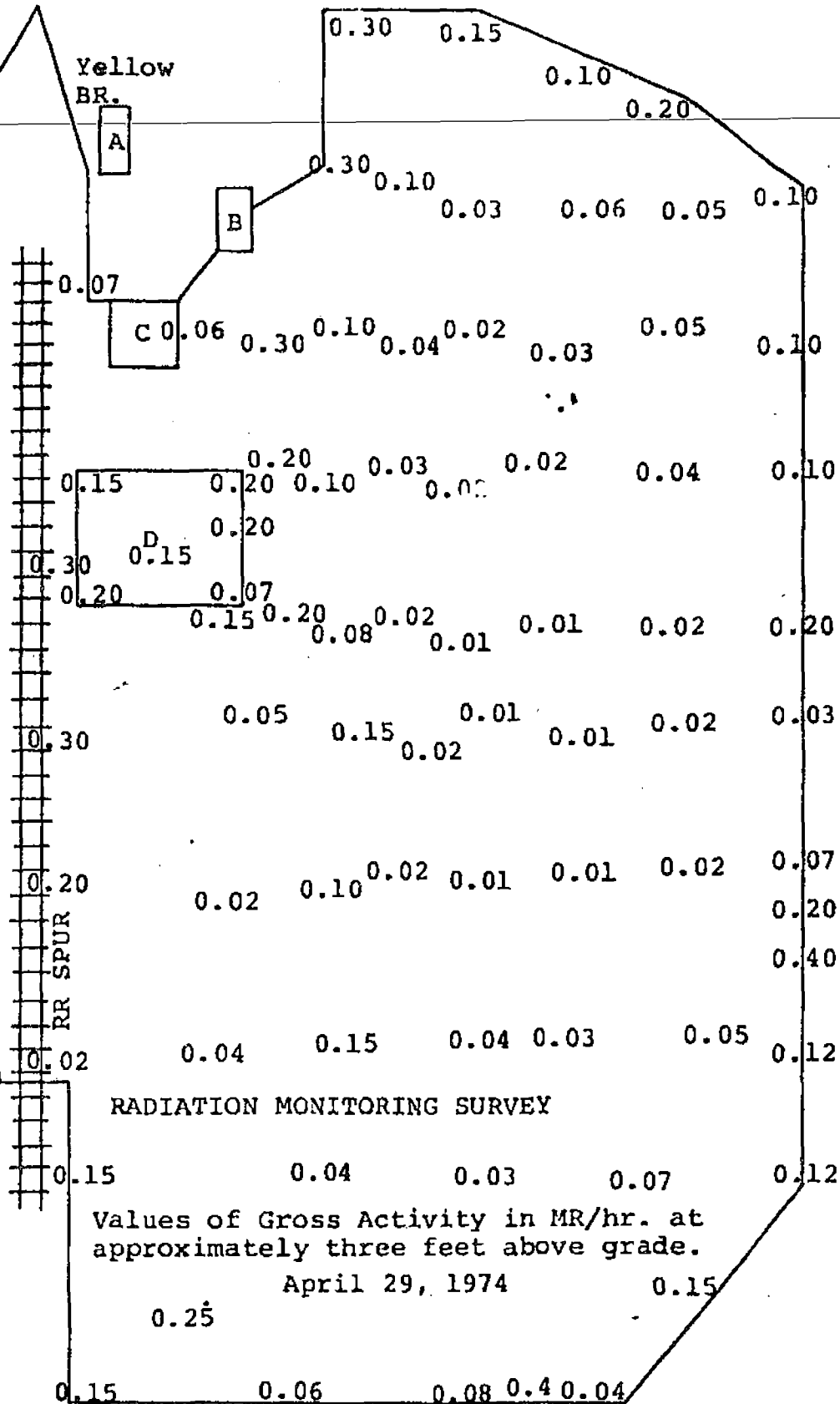


Sketch not to scale

COTTER CORPORATION
LATTY AVENUE STORAGE SITE
HAZLEWOOD, MISSOURI

Latty Avenue

Yellow
BR.



RADIATION MONITORING SURVEY

Values of Gross Activity in MR/hr. at
approximately three feet above grade.

April 29, 1974



Sketch not to scale.

COTTER CORPORATION
LATTY AVENUE STORAGE SITE
HAZLEWOOD, MISSOURI

JUN 12 1973

Mr. Edward J. McGrath
201 North Frederick Avenue
Gaithersburg, Maryland 20760

Dear Mr. McGrath:

This is to confirm our meeting with you and Mr. Dave Marcott on
Thursday May 24, 1973.

The \$1300 annual fee for Cotter Corporation's License SUB-1022 is for
the period February 5, 1973, to February 4, 1974, and was due
February 5, 1973. The fee under Invoice L-0735-73, copy enclosed,
is due and payable, and should be remitted promptly.

If we can be of any further assistance, please feel free to contact
us.

Sincerely,

Original Signed by
Wm. O. Miller

William O. Miller
Business Management Branch
Office of Administration -
Regulation

Enclosure:
Invoice L-0735-73

9609050126 730612
PDR ADDCK 0400B035
C PDR

Paid 8-3-73
CR# 22127
[Signature]

| | | | | | | | |
|-----------|-----------|----------|----------|--|--|--|--|
| GRESS #2 | OFFICE ▶ | DRA:BMB | DRA:BMB | | | | |
| MC 840851 | SURNAME ▶ | Weiss/bw | WOMiller | | | | |
| | DATE ▶ | 5/31/73 | 6/11/73 | | | | |

Docket No. 40-8035

APR 17 1973

303-279-5336

Mr. Dughman
Cotter Corporation
P. O. Box 352
Golden, Colorado 80401

Dear Mr. Dughman:

As you requested, enclosed is a copy of Invoice L-0735-73, for License No. SUB-1022. Please remit the payment of \$1300 to my attention.

Sincerely,

Original Signed by

Wm. O. Miller

William O. Miller
Business Management Branch
Office of Administration -
Regulation

Enclosure:
Invoice L-0735-73

9609050129 730427
PDR ADOCK 04008035
C PDR

*second notice returned
"moved not forwardable"
new address supplied by
applicant (region)*

| | | | | | | |
|-------------------------|------------------------|----------|--|--|--|--|
| GRESS #01 NC# 218014 | OFFICE ▶ DRA:BMB | DRA:BMB | | | | |
| 4/21/73 | SURNAME ▶ DWeiss:jk | WOMiller | | | | |
| | DATE ▶ 4/24/73 | 4/24/73 | | | | |

INVOICE FOR FACILITIES AND MATERIALS LICENSES**UNITED STATES ATOMIC ENERGY COMMISSION****CENTRAL ACCOUNTS BRANCH****WASHINGTON, D. C. 20545****COTTER CORPORATION
P. O. BOX 1000
ROSWELL****NM 88201**

NO.

L-0735-73

DATE:

JAN. 8, 1973

TERMS:

NET 30 DAYS

LICENSE NO.

SUB-1022

| CATEGORY OF LICENSE | FEE FOR FACILITIES AND MATERIALS LICENSES PURSUANT TO 10 CFR 170 | AMOUNT |
|------------------------|---|----------|
| 2A | POSSESSION AND USE OF QUANTITIES IN EXCESS OF 12,200 KILOGRAMS OF SOURCE MATERIAL - MAXIMUM FEE. | 1,300.00 |
| | ANNUAL FEE FOR THE PERIOD 02/03/73 - 02/04/74 AMOUNT DUE → | 1,300.00 |

MAKE CHECK PAYABLE TO U. S. ATOMIC ENERGY COMMISSION AND MAIL TO ABOVE ADDRESS WITH ENCLOSED CARD. PLEASE RETAIN INVOICE FOR YOUR RECORDS. PAYMENT OF THIS FEE DOES NOT CONSTITUTE APPLICATION FOR RENEWAL OF YOUR LICENSE PURSUANT TO THE COMMISSION'S REGULATIONS.



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

July 22, 1971

*Make a
for your
file on
this problem*

Mr. Edward J. McGrath
260 East Jefferson Street
Rockville, Maryland 20850

Dear Mr. McGrath:

Thank you for your letter of June 29, 1971. I believe you are now in direct contact with the proper organizations within the Atomic Energy Commission to provide answers to your questions related to disposal of radioactive waste materials owned by the Cotter Corporation.

The question of burial of the material at the Hazelwood, Missouri, site or any other property controlled by Cotter Corporation should be pursued with the Division of Materials Licensing. Any questions you may have regarding burial of these materials on AEC sites should be addressed to the Division of Waste and Scrap Management.

Should there be any further questions, these two Divisions will either be able to answer them or will ensure that other appropriate Divisions will answer them for you.

Sincerely,

W. E. Johnson

Wilfred E. Johnson
Commissioner

9609050132 710722
PDR ADOCK 04008035
C PDR

Distribution: w/cy. of Incoming

Chairman Seaborg (2)
Commissioner Ramey (2)
Commissioner Larson (2)
R. E. Hollingsworth (2)
J. A. Erlewine, AGMO
W. B. McCool, SECY (2)
R. E. Cunningham, Acting Dir., DML
E. B. Treemel, Dir., DIP
R. L. Faulkner, Dir., RM
J. L. Smith, Dir., RM

LAW OFFICES
EDWARD J. McGRATH
200 EAST JEFFERSON STREET
ROCKVILLE, MARYLAND 20850

(301) 424-4707

June 29, 1971

The Honorable Wilfrid E. Johnson
U.S. Atomic Energy Commission
Washington, D.C. 20545

Re: Cotter Corporation- Radioactive Waste Disposal Proposal

Dear Commissioner Johnson:

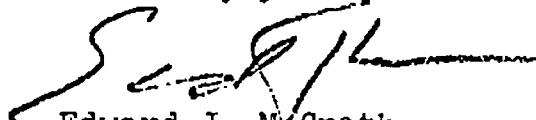
Pursuant to your suggestion made during our conference on June 24, 1971, I am enclosing copies of the correspondence between Cotter Corporation and the Commission relating to the disposal of radioactive waste materials owned by the corporation, which are now located in Hazelwood, Missouri.

I am also enclosing copies of a preliminary proposal for on site burial prepared for Cotter Corporation by the engineering firm of Ryckman, Edgerley, Tomlinson and Associates, Inc., together with a copy of a memorandum by Mr. Warren Goff, Safety Engineer for Cotter Corporation, reporting on the conference between representatives of Cotter Corporation and Nuclear Engineering Company, during which the latter firm gave an estimate of \$2,000,000.00 for burial of the waste material at the site owned by that firm in Illinois.

As Mr. Marcott advised, we are preparing to submit more detailed information to the Commission on the proposal for burial at the present site in Hazelwood, Missouri. We will furnish you with copies of further submissions and correspondence.

On behalf of Mr. Marcott, Cotter Corporation, and myself, I wish to thank you for providing us with an opportunity to discuss with you the problems and public policy issues which surround our efforts to dispose of the waste materials safely and quickly.

Sincerely yours,



Edward J. McGrath
Attorney for Cotter Corporation

EJM/dkb
Enclosures

100-10255 1A

LAW OFFICES
EDWARD J. McGRATH
260 EAST JEFFERSON STREET
ROCKVILLE, MARYLAND 20850

(301) 424-4707

April 28, 1971

Mr. Robert E. Hollingsworth,
General Manager
United States Atomic
Energy Commission
Washington D.C. 20545

Re: Cotter Corporation -
Waste Disposal Project

Dear Mr. Hollingsworth:

Based upon the facts and circumstances hereinafter set forth, Cotter Corporation hereby makes application for authority to dispose of radioactive waste material described below by depositing the same in the abandoned quarry utilized for such disposal on the property owned and controlled by the Atomic Energy Commission at Weldon Spring, Missouri.

Cotter Corporation, in 1967, purchased from a private concern a substantial quantity of radioactive residues stored at that time at the so called "airport site" in St. Louis, Missouri for the purpose of reprocessing that portion of the material which was amenable to treatment in the uranium mill of Cotter Corporation located in Canon City, Colorado.

The residues purchased were the product of earlier Commission operations, and represented a substantial problem at the time when they were acquired by Cotter Corporation, because the firm which purchased them from the Commission and from which Cotter Corporation acquired them had done so speculatively, without a program for disposition, and subsequently terminated its business activities.

Included in the residues was certain material for which no utilization then existed, or now exists. Cotter Corporation has transported and processed all of the waste material which was amenable to treatment and made arrangements for disposition of a large quantity of unusable loose material.

There remains for disposition approximately one thousand (1,000) drums filled with contaminated trash, that is items such as bricks, clothing, boots, gloves and the like. The drums are currently located at Hazelwood, Missouri.

94-2442-288

Cotter Corporation, if authorized by the Commission to do so, will transport the drums by truck from Hazelwood, Missouri to the quarry site at Weldon Spring (a distance of approximately thirty (30) miles) and deposit them in the quarry, subject to Commission advice and direction, and at the expense of the corporation.

We believe deposit in the quarry to be the most satisfactory resolution of all substantial problems involved in disposition of the contaminated material. Among the factors which dictate our conclusion are that the quarry site is utilized by the Commission for disposal of similar contaminated material; that no conflict exists in this situation with the Commission policy against engaging in operations competitive with private industry, since existing privately operated waste disposal facilities are not designed in capacity or otherwise for disposition of material in the quantity and form involved in this situation; that the distance to the nearest commercial disposal site, even were it capable of handling the material is two hundred (200) miles as opposed to a distance of thirty (30) miles from Hazelwood to Weldon Spring; and finally the very substantial difference in expense in disposal other than at Weldon Spring quarry, even if such alternatives were otherwise feasible.

We request the opportunity to present and discuss this proposal with you and with those of the Commission staff concerned with the several aspects involved.

Very truly yours,

Edward J. McGrath
Attorney for Cotter
Corporation

EJN/dn

PROPOSAL

for

DECONTAMINATION

LATTY AVENUE STORAGE SITE

Hazelwood, Missouri

AEC License #SUS 1022 (40-8025)

April, 1971

RETA-780



RYCKMAN • EDGERLEY • TOBLINSON AND ASSOCIATES

310 CORBETT BUILDING • 225 SOUTH MERAMEC AVENUE • SAINT LOUIS, MISSOURI 63105
TELEPHONE (314) 862-1424

It is the intent of this proposal to provide a means whereby the Latty Avenue Ore Storage Site may be decontaminated and returned for normal land use with no restrictions on future use, in full compliance with all applicable rules and regulations of the Atomic Energy Commission.

Figure 1 shows a schematic of the Storage Site with the stockpiled material outlined. This material has had a long and varied history in relation to its ultimate disposal as outlined in your Commission's Invitation to Bid No. AT-(23-2)-52, dated January 10, 1964. At that time a partial listing of the material included: 74,000 tons of Belgian Congo Pitchblend Raffinate containing about 113 tons of uranium, 32,500 tons of Colorado Raffinate containing about 48 tons of uranium and 8700 tons of Leached Barium Sulfate containing 7 tons of uranium. Material indicated on the schematic represents those listed above as purchased by Commercial Discount Corporation of Chicago, Illinois [License #SMC-907 (40-7603)].

Since August, 1970, Cotter Corporation has been drying and shipping the Congo Raffinate to their site of operations in Canyon City, Colorado [License No. SUB-1022 (40-2035)]. At the present time this operation is being completed. Low concentrations of valuable metals and other elements have rendered the remaining material economically unfeasible to process in like manner. For this reason it is proposed to bury the remaining material on site.

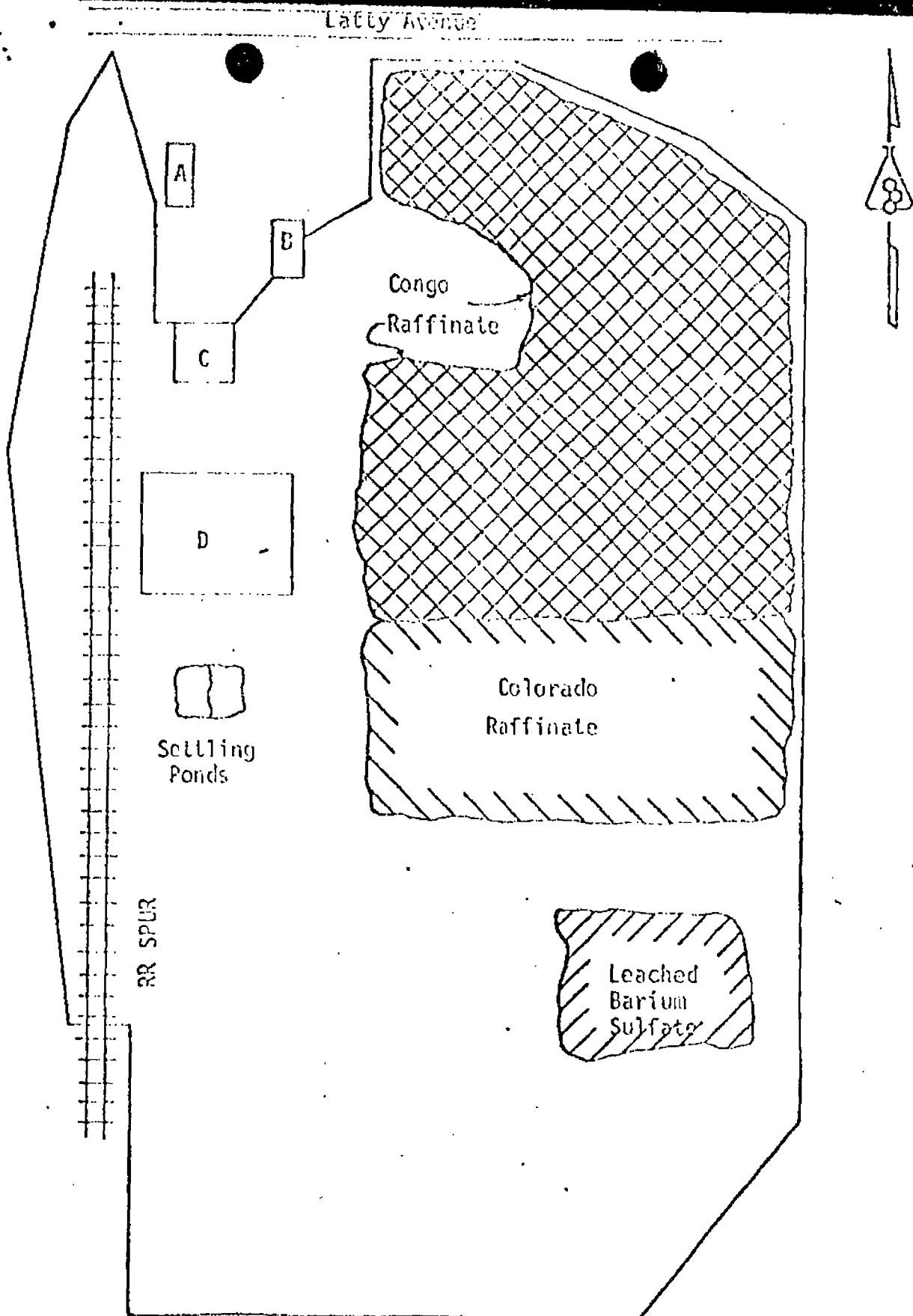
The landfill will be constructed in a series of excavations and burials. The area previously occupied by the Congo Raffinate will be further excavated, with the original uncontaminated earth stockpiled in a spoils area, to provide sufficient space for burial of the Colorado Raffinate. The area occupied by the Colorado Raffinate will be made available for burial of the Leached Barium Sulfate settling pond residue and other non-compressible contaminated material.

Building "D", refer Figure 1, shall be thoroughly washed and otherwise decontaminated with all machinery being scrubbed, dismantled and removed

from the site. Building "A", an office, "B", a garage and dining area, and "C", an equipment storage area will not require extensive decontamination. Dirt, debris and other material deposited within Building "D" during the drying operation will be removed and buried, along with slightly contaminated original earth, on top of the Barium Sulfate. The top layer of earth on all contaminated areas will be removed and buried until radiation levels have been reduced to below AEC limits.

Guidelines for the burial pits will comply with good engineering practices as well as the rules and regulations of your Commission. All pits will be of sufficient size to insure a minimum of four feet earth cover on the finished installation. All excavations will be sealed on the top and bottom with a four inch (4") thick asphaltic layer. If "wet" conditions are encountered while opening the pit, all sides will receive the asphaltic seal. All areas will be scraped clean of contaminated earth sufficiently deep to insure a maximum gross radiation level of 0.05 mR/hr. The entire site will be graded to insure proper drainage with no unsightly mounds or depressions.

It is the desire of Cotter Corporation to return to its Lessor land which will in no way be limited in its usefulness or value and will in no way endanger the surrounding environment and its inhabitants.



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

MAY 24 1971

RECEIVED

MAY 25 1971

E. J. McGRATH

Mr. Edward J. McGrath
260 East Jefferson Street
Rockville, Maryland 20850

Dear Mr. McGrath:

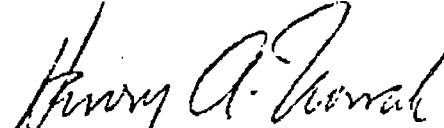
This is in response to your letter of April 28, 1971, proposing to dispose of certain radioactive wastes owned by the Cotter Corporation in an AEC-owned quarry at Weldon Spring, Missouri. Your letter states, in part, that

"... no conflict exists in this situation with the Commission policy against operations competitive with private industry, since existing privately operated waste disposal facilities are not designed in capacity or otherwise for disposition of material in the quantity and form involved in this situation ..."

This statement raises some questions on which we would appreciate further information. First, what is the intent of the phrase "or otherwise?" Does it mean that the licensed burial ground operators could not handle the material within the safety requirements of their present licenses? Second, is the judgment expressed in this statement that of the Cotter Corporation or that of the licensed burial ground operators? More specifically, have the three licensed burial ground operators (Nuclear Engineering, Nuclear Fuel Services, and Chem-Nuclear Services) stated that they could not handle the material?

We would appreciate your views on these points in order to consider the proposal further.

Sincerely,


Henry A. Nowak, Director
Division of Waste and
Scrap Management



ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

June 28, 1971

MEMORANDUM FOR THE FILES

SUBJECT: MEETING WITH REPRESENTATIVES OF COTTER CORPORATION

At the request of Senator Peter Dominick (Colorado), Commissioner Johnson met with David Marcott, Executive Vice President, and Edward McGrath, Washington Counsel, for Cotter Corporation on June 24, 1971. Others attending were Dr. Martin Biles and U. M. Staebler. Messrs. Marcott and McGrath had previously met with personnel from the Division of Materials Licensing and Waste and Scrap Management.

Cotter Corporation acquired radioactive residues from early AEC milling operations which had been moved from the St. Louis Airport to Hazelwood, a site in metropolitan St. Louis, by a Baltimore Corporation which went bankrupt. The material was acquired from Commercial Discount, the financier of the original purchase from the AEC. Selected materials were sent to a plant at Canyon City for recovery of valuable minerals. Cotter has about 15,000 tons of materials to be disposed of in addition to about a thousand drums of contaminated materials which can be disposed of commercially at a reasonable cost. They are committed to restore the property on which the material is stored but have found that disposal on-site is not acceptable under present regulations. The \$150,000 they had allowed for on-site disposal is to be compared with an estimate of \$2 million they have received from Nuclear Engineering for commercial disposal at a site about 200 miles away.

Mr. Marcott would like to dispose of the material at the quarry formerly used by the AEC near the St. Louis operations which is about 30 miles from the Hazelwood site. Dr. Biles reviewed the situation at the quarry, concluding that disposal there would not be acceptable. The basis for the estimate of \$2 million for disposal by Nuclear Engineering was not known but it did not seem consistent with the usual charge of about \$0.70 per cu. ft. for commercial disposal plus transportation. (Separate information indicates this estimate may include decontamination of buildings at the site.) Dr. Biles suggested that transporting the material to Colorado

and adding it to existing piles of tailings there might be worth exploring since the material is similar and would be quite small in quantity relative to these piles.

It was agreed that:

- a) Both Cotter and AEC (Biles) would look into the feasibility of disposal on other tailings piles (including licensing).
- b) Cotter would provide a breakdown of the \$2 million estimate from Nuclear Engineering.
- c) AEC (Biles) would investigate the basis being used for private commercial disposal -- in particular whether pricing on a unit volume basis was reasonable for this kind of material.
- d) Cotter would provide a summary of the history of the material and the contract obligations relative to ultimate disposal associated with the various transfers.

U. M. Staebler
U. M. Staebler

cc: General Manager
Dr. Martin Biles, OS
R. O'Neill, Cong. Rel.
H. Nowak, WSM
C. Henderson, DR

40-8035

Mr. S. H. Cavin
Attorney at Law
P.O. Box 1000
Roswell, New Mexico 88201

FEB 24 1971

Dear Mr. Cavin:

This responds to your recent inquiry regarding your receipt of Invoice L-0712-71, dated February 5, 1971, covering fees for facilities and materials licenses.

The invoice specifies the annual fee charged for your AEC license pursuant to Part 170 of the Commission's regulations. (A copy of an explanatory letter dated January 19, 1971, which was sent to all licensees affected by the revised fee schedule, is attached.)

The invoice pertains to the following license issued to you:

License No. SUB-1022

User and Address:

Cotter Corporation
P.O. Box 1000
Roswell, New Mexico 88201

Material Covered or Activity Authorized:

Uranium - use at 9200 Latty Avenue
Hazelwood, Missouri

Please note that the fee invoice is not related to the expiration date specified in the license, nor does it affect renewal of your license.

We trust that the above provides you with the necessary information to identify the activity to which the fee is applicable.

DISTRIBUTION:

File
RLeith, OC
Lic. File No. SUB-1022
WOMiller, SLR (2)
SLR R/F
DR R/F

Sincerely,

Original Sent to
Wm. O. Miller

Eber R. Price, Director
Division of State and
Licensee Relations

Enclosure:

Notice to AEC Licensees on
License Fee due 1/19/71

9609050144 710224
PDR ADQCK 04008035
C PDR

| | | | | | |
|--------------|--------------|---------|--|--|--|
| CRESS OFFICE | SLR | SLR:DIR | | | |
| T18 SURNAME | WOMiller:min | ERPrice | | | |
| ROI DATE | 2/23/71 | 2/ /71 | | | |

INTERMEDIATE ACTION FORM

Source & SNA Licenses

| | | | | | | | | | | | | |
|---|--|----------------------------------|------------------------|--------------------------------|-------------------------|---|--|---|---|--------------------------------|--|--|
| 01. PROG CODE 62 | | 02. DOCKET NO. 40-8035 | | 03. TASK 3911 | | 04. PURPOSE OF TASK New license | | 05. CONTROL NO. 3911 | | 06. LICENSE NUMBER - | | |
| 07. APPLICANT Cottar Corporation | | | | | | | | 08. AM. NO. RESULTING FROM TASK - | | | | |
| 09. STREET & BUILDING P. O. Box 1000 | | | | | | 10. CLASSIFICATION U | | 11. ASG. TO: - | | | | |
| 12. CITY Roswell | | | 13. STATE NM | | 14. ZIP 88201 | | 15. RECEIVED YR. MO. DAY 69 12 19 | | 16. ISSUED YR. MO. DAY - - - | | 17. EXPIRED YR. MO. DAY - - - | |
| 18. APPLICANT'S COMMUNICATION DATED | | | | YR. MO. DAY 69 12 16 | | 19. ENCLOSURES (4 cys.) | | | | | | |
| 20. DESCRIPTION (MUST BE UNCLASSIFIED) ltr. trans. the following: | | | | | | 21. AEC-2, dtd. 12-16-69 for sm license to cover 500,000 lbs. of U ₅₀₈ for processing. | | | | | | |
| | | | | | | 22. Supplemental Sheet to AEC-2 (Exhibit "A") | | | | | | |
| INTERMEDIATE ACTIONS | | | | | | 23. DISTRIBUTION 1-PDR Cy. 1-compliance (region) | | | | | | |
| | | | | | | OTHER REFERRALS | | | | | | |
| TYPE | | ON | | | ACTIV. | | RETURNED | | | DATE | | |
| | | YR. | MO. | DAY | 92 | | YR. | MO. | DAY | 93 | | |
| ACQ'L. INFO REQUESTED FROM APPLICANT | | 91 | | | | 1 | 93 | | | | | |
| REFERRED TO: | | 94 | | | 95 | 2 | 96 | | | | | |
| REFERRED TO: | | | | | | | | | | | | |

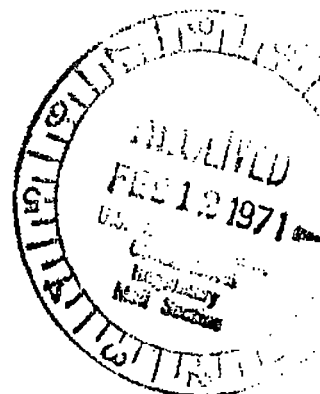
Musbauer: 69 12 24
v/file cy. & folder

S. H. Cavin - Attorney at Law

BOX 1000, ROSWELL, NEW MEXICO 88201 - SDS 622-2140

February 9, 1971

Mr. Don F. Harmon
Source and Special Nuclear
Materials Branch
Division of Materials Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545



Re: License No. SUB-1022 - Cotter Corporation
Central Accounts Branch Billing No. L-0712-71
Docket No. 40-8035

Dear Mr. Harmon:

With reference to billing from the Central Accounts Branch of the Atomic Energy Commission, copy of which is attached, I cannot find any provision for this fee either in the Permit or in 10 CFR 170-31.

It would be appreciated if you could advise me under what provision of CFR this fee is being charged or if there is some other basis for the charge.

Thank you very much for your assistance and cooperation in this matter.

Yours very truly,

A handwritten signature in dark ink is written over a horizontal line. The signature appears to be 'S. H. Cavin' in a cursive, slightly stylized script.

Enclosure

cc: United States Atomic Energy Commission
Central Accounts Branch

INVOICE FOR FACILITIES AND MATERIALS LICENSES

UNITED STATES ATOMIC ENERGY COMMISSION

CENTRAL ACCOUNTS BRANCH

WASHINGTON, D. C. 20545

TO:

COTTER CORPORATION
P. O. BOX 1000
ROSWELL

NMEX 88201

NO:

L-0712-7

DATE:

FEB. 5, 197

TERMS:

NET 30 DAYS

LICENSE NO. 40-8035

| CATEGORY OF LICENSE | FEE FOR FACILITIES AND MATERIALS LICENSES PURSUANT TO 10 CFR 170 | AMOUNT |
|---------------------|---|--------|
| 2A | POSSESSION AND USE OF QUANTITIES IN EXCESS OF 551.7 KILOGRAMS OF SOURCE MATERIAL - MAXIMUM FEE. | 80 |
| ANNUAL | FEE FOR THE PERIOD 02/05/71 - 02/04/72 AMOUNT DUE → | 80 |

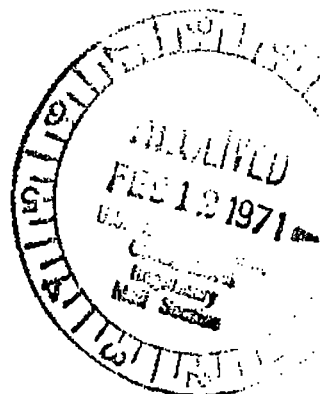
MAKE CHECK PAYABLE TO U. S. ATOMIC ENERGY COMMISSION AND MAIL TO ABOVE ADDRESS WITH ENCLOSED CARD. PLEASE RETAIN INVOICE FOR YOUR RECORDS. PAYMENT OF THIS FEE DOES NOT CONSTITUTE APPLICATION FOR RENEWAL OF YOUR LICENSE PURSUANT TO THE COMMISSION'S REGULATIONS.

S. H. Cavin - Attorney at Law

BOX 1000, ROSWELL, NEW MEXICO 88201 - 505 622-2140

February 9, 1971

Mr. Don F. Harmon
Source and Special Nuclear
Materials Branch
Division of Materials Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545



Re: License No. SUB-1022 - Cotter Corporation
Central Accounts Branch Billing No. L-0712-71
Docket No. 40-8035

Dear Mr. Harmon:

With reference to billing from the Central Accounts Branch of the Atomic Energy Commission, copy of which is attached, I cannot find any provision for this fee either in the Permit or in 10 CFR 170-31.

It would be appreciated if you could advise me under what provision of CFR this fee is being charged or if there is some other basis for the charge.

Thank you very much for your assistance and cooperation in this matter.

Yours very truly,

A handwritten signature in cursive script, appearing to read 'S. H. Cavin', written over a horizontal line.

Enclosure

cc: United States Atomic Energy Commission
Central Accounts Branch

INVOICE FOR FACILITIES AND MATERIALS LICENSES

UNITED STATES ATOMIC ENERGY COMMISSION

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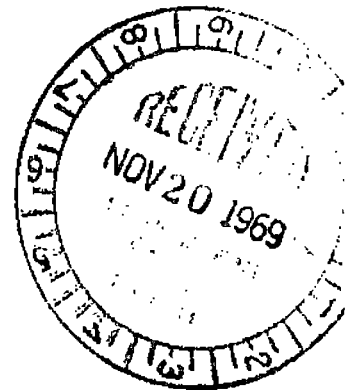
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COTTER CORPORATION

POST OFFICE BOX 1000
ROSWELL NEW MEXICO 88201

November 18, 1969

Chief Source and Special Nuclear Materials Branch
Division of Materials Licensing
United States Atomic Energy Commission
Washington, D. C. 20545



Re: Commercial Discount Corporation - Residue Processing

Gentlemen:

Cotter Corporation is the owner and operator of a Uranium Ore Processing Plant located at Canon City, Colorado. It holds Source Material License No. R-197.

Commercial Discount Corporation of Chicago, Illinois is the owner and lessee of certain property located at 9200 Latty Avenue, Hazelwood, Missouri. On these premises are stockpiled radioactive materials. Commercial Discount Corporation is the holder of License No. SMC-907, as amended. Its license permits the stockpiling, drying, loading and shipping of these materials to Cotter Corporation's Canon City Mill for processing and recovery of Uranium.

The license held by Commercial Discount Corporation bears an expiration date of December 31, 1969. Cotter Corporation and Commercial Discount Corporation have recently reached an agreement whereby Cotter would take over the operation of drying, loading and shipping material from the Latty Avenue address to its mill in Canon City. In connection with this agreement, the material stockpiled is being sold to Cotter Corporation, together with the drying, loading and shipping equipment. Commercial Discount Corporation will remain the owner and lessee of the premises.

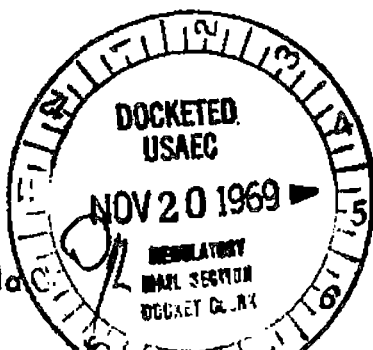
In light of the above information, we shall appreciate your advice as to whether there is any necessity for Cotter to obtain an amendment to their existing license, which would cover its new operation at the Latty Avenue address. Will the expiration of the Commercial Discount Corporation License No. SMC-907 require a renewal, and should this be by Commercial Discount or by Cotter Corporation.

It is expected that no drying, loading or shipping operations will be commenced by Cotter Corporation until the early spring of next year.

Yours very truly,

COTTER CORPORATION

By:

C. L. Pasquier, Jr.

CLPjrla

From: **Cotter Corporation**
Research, San Francisco 62004

C. L. Pasquier, Jr.

TO:

SLSM Branch

CLASSIF:

U

POST OFFICE

REG. NO:

DESCRIPTION: (Must Be Unclassified)

Ltr. adv. that the operation covered
by MC-907 is being taken over by
Cotter Corp., and req. to be advised
if amendment is required.
ENCLOSURES:

REMARKS:

Distribution: 1-FDR cy.
1-compliance cy.

DATE OF DOCUMENT

Nov. 12, 1960

DATE RECEIVED

Nov. 20, 1960

NO. 1

3-2-6

LTR.

MEMO:

REPORT:

OTHER:

X

ORIG.:

CCI:

OTHER:

I

ACTION NECESSARY

☐

CONCURRENCE

☐

DATE ANSWERED

NO ACTION NECESSARY

☐

COMMENT

☐

BY:

FILE CODE:

DOCKET: 40-7603-40-8035

REFERRED TO

DATE

RECEIVED BY

DATE

Handwritten

w/11th cy. & file

11/24

DO NOT REMOVE

ACKNOWLEDGED

302

BJQ