



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 4, 1990

Docket No. 40-2061

Board Notification 90-11

MEMORANDUM FOR: Atomic Safety and Licensing Appeal Board
and All Parties

FROM: Charles J. Haughney, Chief
Fuel Cycle Safety Branch
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

SUBJECT: NEW INFORMATION POTENTIALLY RELEVANT AND MATERIAL
TO BOARD PROCEEDING IN THE MATTER OF KERR-MCGEE
CHEMICAL CORPORATION, WEST CHICAGO RARE EARTHS FACILITY,
DOCKET 40-2061-ML

In conformance with the Commission's policy on notification of Licensing Boards, Appeal Boards, or Commission of new, relevant, and material information, this memorandum calls attention to the documents listed below.

The enclosed documents being brought to the attention of the Board as information which may be relevant and material to issues pending before the Board include:

1. Letter from Kerr McGee Chemical Corporation to me, dated July 18, 1990, Subject: License Amendment Request for On-Site Receipt and Disposal of Off-Site Contaminated Soils.
2. Notice of Environmental Assessment, Finding of No Significant Impact and Opportunity for Hearing on above request.

Charles J. Haughney
Charles J. Haughney, Chief
Fuel Cycle Safety Branch
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Enclosures:
As stated

cc: Attached list

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*per 10/17/90 telcon
w/ Jim McKnight + at
~ 1:30 pm
NFL9*

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cc:

Administrative Judge
Thomas S. Moore, Chairman
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Christine N. Kohl
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Howard A. Wilber, Chairman
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
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Administrative Judge
John H. Frye, III, Chairman
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Jerry R. Kline
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
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Administrative Judge
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Docketing and Service Section (3)
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Adjudicatory File
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety and Licensing Appeal
Panel (5)
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety and Licensing
Board Panel (1)*
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Board Notification 90-11 dated October 4, 1990
cc:

J. Taylor, EDO
H. Thompson, DEDS
R. Bernero, NMSS
G. Arlotto, NMSS
W. Parler, OGC
L. Chandler, OGC
R. Cunningham, IMNS
G. Sjoblom, IMNS
A. B. Davis, Reg III
SECY (3)



KERR-MCGEE CHEMICAL CORPORATION

KERR-MCGEE CENTER • OKLAHOMA CITY • OKLAHOMA 73125

July 18, 1990

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Charles J. Haughney, Chief
Fuel Cycle Safety Branch
Division of Industrial and Medical
Nuclear Safety, NMSS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Docket: 40-2061
License: STA-583
License Amendment Request for Authorization for On-Site
Receipt and Disposal of Off-Site Contaminated Soils

Dear Mr. Haughney:

Kerr-McGee Chemical Corporation hereby requests authorization to receive, store, and dispose of thorium-contaminated soils currently located in off-site residential and commercial locations in DuPage County. Approximately 40 sites have been identified for remediation in accordance with guidance established in the West Chicago Neighborhood Clean-up Program (attached) and with procedures contained in the Kerr-McGee West Chicago Facility Health Physics Manual.

Gamma radiation levels of 35 uR/hr or higher will be excavated to background levels (approximately 15 uR/hr) and clean soils replaced to pre-existing property contour. The contaminated soils will be brought to the West Chicago Rare Earths Facility Site for storage and disposal.

This program is consistent with the previously completed program in which residential and commercial properties within the City of West Chicago were addressed. Authorization for receipt of thorium-contaminated soils was previously provided in license amendments 10 (July 10, 1984) and 11 (May 13, 1986). These amendments were subsequently deleted in the licensing action and revision dated February 23, 1990 authorizing on-site disposal.

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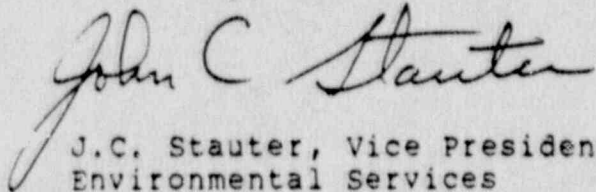
2pp

ENCLOSURE 1

NFO1

Your prompt approval of this request is respectfully sought. Should you have any questions, please contact me at your earliest convenience (405/270-2623).

Sincerely,



J.C. Stauter, Vice President
Environmental Services

JCS:gw

Attachments:

- (1) Docket 40-2061; License STA-583; Amendment 10; July 10, 1984.
- (2) Docket 40-2061; License STA-583; Amendment 11; May 13, 1986.
- (3) Program Outline: Off-Site Thorium Removal; West Chicago, IL, June 25, 1984.
- (4) Off-Site Thorium Removal Program, Unincorporated Residential Neighborhoods, West Chicago, IL, August 23, 1989. (Transmitted to NMSS via letter J.C. Stauter to L.C. Rouse, September 1, 1989)

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PROGRAM OUTLINE

OFF-SITE THORIUM REMOVAL

WEST CHICAGO, ILLINOIS

JUNE 25, 1984

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WEST CHICAGO OFF-SITE THORIUM REMOVAL

INTRODUCTION

Thorium has been identified at various locations in the City of West Chicago. The areas containing thorium are of two categories--small deposits in the neighborhood of the Kerr-McGee Chemical Corporation's facility and larger volumes at Reed-Keppler Park and the West Chicago Sanitary Sewage Treatment Plant. The level of thorium does not pose a health threat but it has become a source of adverse publicity and overt interference by government agencies.

In recognition of this situation, Kerr-McGee and the City of West Chicago, while neither has any legal responsibility to do so, are in a spirit of cooperation and in the public interest jointly undertaking a voluntary program to remove the thorium deposits from the neighborhood. The program is described briefly in the following paragraphs.

The larger volumes of thorium at the Park and Sewage Treatment Plant are considered to be a separate matter. However, KM and the City, in the same voluntary spirit of cooperation and without legal responsibility for these areas, have agreed that KM would provide a consultant to evaluate these sites and advise on the alternatives for appropriate remedial action, if any.

NEIGHBORHOOD THORIUM REMOVAL PROGRAM

The neighborhood program within the City of West Chicago involves identifying the material to be removed, excavating and removing the material, restoring disturbed areas, and disposing of the material.

Identifying Thorium Locations

Criterion: Any area within West Chicago determined to have an external gamma radiation level that exceeds 35 microR per hour at one meter above the surface will be removed subject to permission of the property owner.

Determining Areas: Previous surveys have revealed thorium at close to 75 locations within West Chicago, mainly within the approximate boundary shown in Appendix 1. KM will resurvey completely the property within this boundary. A few spots containing thorium have been identified at locations within West Chicago but outside the noted boundary. KM will resurvey those identified spots as well as conduct a systematic survey of the additional area shown within the outer boundary in Appendix 2.

Oral permission to survey private property will be jointly obtained by KM and the City. The survey will be conducted by trained KM survey teams equipped with appropriate gamma field survey instruments. A block-by-block external survey will be done along roadways, sidewalks, and property.

3. **Marking Areas:** Areas identified as exceeding the removal criterion will be marked with stakes, flags or paint and noted on maps.

2. Removing Identified Areas

1. **Excavating Thorium-Containing Materials:** After areas have been identified, KM will, without unnecessary delay, remove identified areas using hand equipment or small machinery as appropriate to minimize property disturbances.

EXHIBIT II

Excavation on private property will be started only after (1) KM and the City have obtained the owner's written permission on a form acceptable to both KM and the City and (2) the existing physical conditions have been documented with photographs.

2. **Packaging Excavated Material:** KM will place the excavated material in appropriate containers, such as drums with lids or metal lift boxes with lids. Filled containers will be placed along the street by KM for immediate removal by the City to the KM facility.
3. **Resurveying Excavated Areas:** KM will resurvey excavated areas using gamma survey instrumentation to assure that the material has been removed to the extent practicable.
4. **Exceptions:** If an area marked for removal includes a structure, KM and the City will consult and agree on a course of action before removal begins.

C. Restoring Excavated Areas

1. **Refilling Excised Areas:** After areas have been excavated, the City will, without unnecessary delay, restore with clean soil the areas from which the thorium-containing material has been removed and re-establish previous contours. Heavy equipment will not be used so as to keep disturbances to a minimum. Any plants, shrubs or structures that were altered will be returned to conditions documented in the photos.
2. **Resurveying After Restoration:** KM will resurvey the restored areas to document the external gamma levels.

D. Disposing of Excavated Material

1. **Hauling to the Facility:** The City will haul materials packaged by KM and placed at curbsides to the facility site. City vehicles will be unloaded immediately inside the facility site boundary.
2. **Handling at the Facility:** KM will relocate the materials brought to the facility site by the City. Containers to be reused will be emptied by KM, cleaned and returned to the facility site perimeter for pickup by the City.
3. **Stockpiling at the Facility:** Excavated material emptied by KM on the facility site will be stockpiled separately from other materials on the site. Logs will be maintained showing quantities received, date of receipt, level of radiation and origin of the excavated material.
4. **Future Responsibility:** After material excavated under the Neighborhood Thorium Removal Program has been unloaded at the facility site, neither the property owner from whose property the material originated nor the City will have any further responsibility for the care and disposal of that material.

E. Personnel Requirements and Equipment

1. **Survey Teams:** Three survey teams will be used initially, each consisting of three men provided by KM. The teams will be equipped with a gamma survey instrument, large scale maps, stakes, spray paint and other items as required or appropriate.
2. **Excavation Teams:** KM will provide three-man excavation teams. Initially, 2-3 teams may be required and will be adjusted depending on experience. KM will provide a

trained radiation surveyor to guide the removal of the material and its placement in a container and to assure adherence to radiation safety practices. Equipment will consist of shovels, picks and other hand tools and where feasible, small mechanical diggers/loaders. Filled containers of material will be moved to curbside.

3. Hauling Team: One hauling team, consisting of two men and a truck, will be provided by the City.
4. Facility Handling Team: Existing KM personnel will handle the material delivered by the City.
5. Restoration Team: A restoration team, consisting of three men and a truck will be provided by the City.

REED-KEPPLER PARK AND SANITARY PLANT

In parallel with the neighborhood thorium removal program, Kerr-McGee will retain a consultant at its expense to evaluate the situations at both Reed-Keppler Park and the Sanitary Sewage Treatment Plant and develop alternatives for remedial action. The objective is to identify a cost-effective way to make the impacted areas at both locations available for beneficial use. With respect to the Park, the consultant will include the alternative of removing some thorium-containing material from the surface, refilling with clean material and paving the area for a parking lot. With respect to the Sewage Treatment Plant, the consultant will include the alternative of simply removing thorium-containing material.

The alternatives will be reviewed jointly by the City and KM. The two parties will seek to agree on the best course of action and proceed in a manner acceptable to both. The City and KM

believe thorium-containing material removed from both the Park and the Sewage Treatment Plant should be taken to the facility site; however, because the volume of material involved may be large, a final decision to take the material to the site would be contingent on (i) the volume being compatible with the plan for on-site stabilization of residues, (ii) the approval of the regulatory agencies if that approval is necessary, and (iii) an understanding as to the City's responsibility for transportation costs and disposal or custodial fees if KM is required in the future to move the material to a site outside West Chicago.

KM will have the consultant undertake the evaluations in July with the report and recommendations due by August 15.

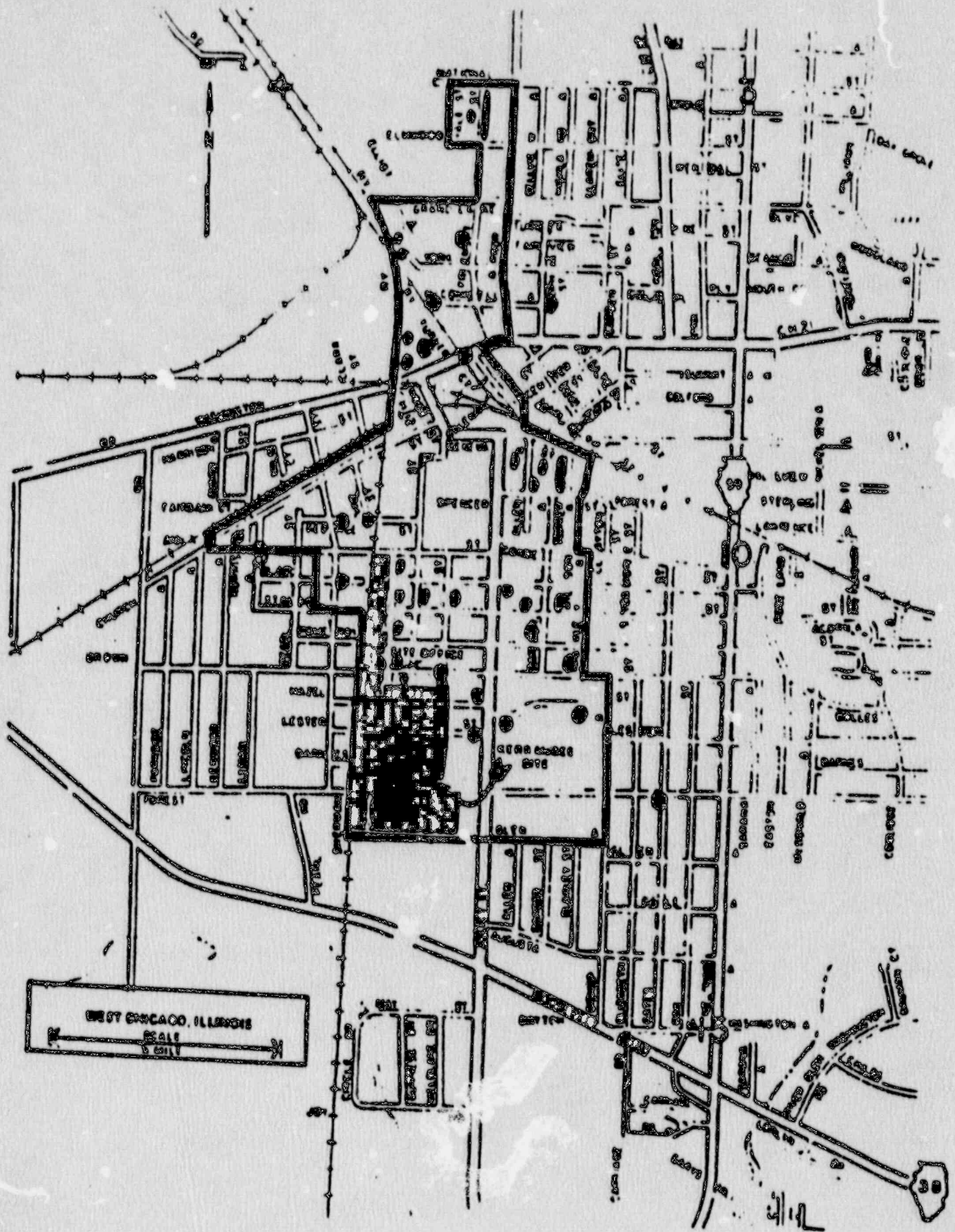
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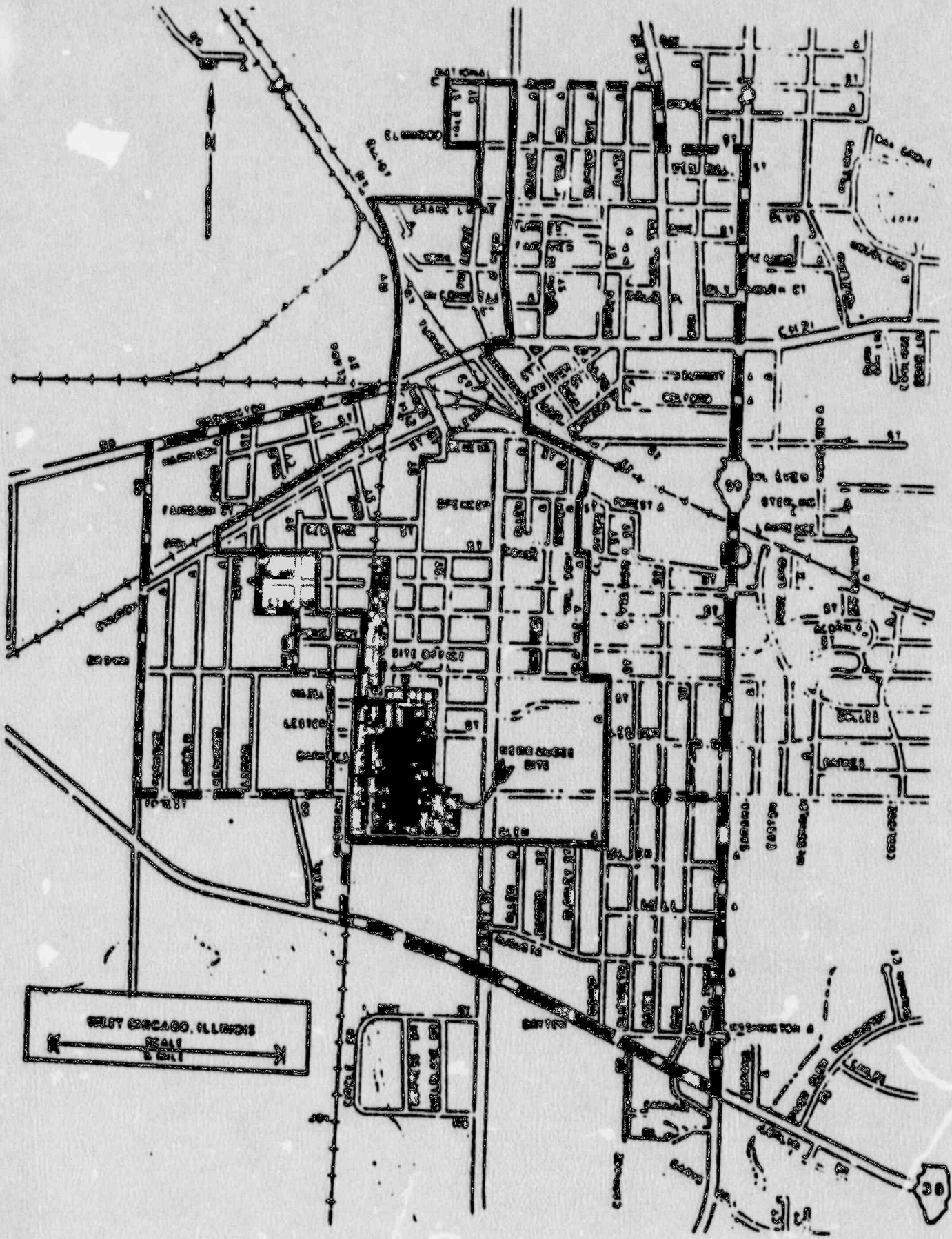
Work schedule and manning requirement estimates are shown in Appendices 3 and 4.

The neighborhood program will begin within a week after KM and the City agree to proceed, and be completed by the end of the outdoor work season. The program will be done on a systematic block-by-block basis, permitting KM, the City and the residents to schedule and coordinate activities.

Project management will consist of a KM health physicist and a City engineer, each with the authority to exercise judgment and make decisions to expedite the work. The total manpower requirement is estimated to be 24 people comprised of 18 from KM and 6 from the City.

June 25, 1984





WEST CHICAGO OFF-SITE CLEAN-UP

ACTIVITY SCHEDULE

Responsible Party	Task	JULY	AUGUST	SEPT.	OCT.	Projected Manpower
RM	Safety Crews	3				
		2*				
RM	Cleanup Crew	3				6
City	Hauling Crew	1				9
City	Restoration Crew	1				2
RM	On-Site Crew					3
RM/City	Supervision					2
						24
						6 - City
						18 - RM

All work after the first week will be on a continuous basis to assure prompt identification, removal, and transport of the material.

*One survey crew will be reassigned to make up a third cleanup crew.

**MANNING
FOR
WEST CHICAGO OFF-SITE CLEANUP**

The tentative manning structure for the neighborhood off-site cleanup is shown below. Depending upon the progress and experience after the first two-three weeks, manning teams will be adjusted as needed to maintain pace required to assure completion by the end of the work season.

MANNING CHART

Management

- 1 Health Physics Supervisor/Coordinator - EM
- 1 Engineer Supervisor/Coordinator - City

Survey Teams - 3 (a)

- 1 Instrument Technician - EM
- 2 Helpers (Tape, Maps, Markers, Logs) - EM

Excavation Teams - 3 (b)

- 2 Laborers (Dig, package, place at street) - EM
- 1 HP Surveyor - EM

Restoration Team - 1

- 3 Laborers (truck driver, spreaders) - City

Hauling Team - 1

- 2 Laborers (Truck driver, loader) - City

On-Site Handling Team - 1

- 2 Laborers - EM

(a) Three survey teams will operate the first week, then two thereafter. All members will be qualified for surveying.

(b) A survey team will be terminated after the first week and a man assigned to each excavation team to provide surveying and health physics oversight.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 10 1984

FCUP:WAN
40-2061
STA-583, Amendment No. 10

Kerr-McGee Chemical Corporation
ATTN: Dr. John C. Stauter, Director
Nuclear Licensing and Regulation
Kerr-McGee Center
Oklahoma City, OK 73125

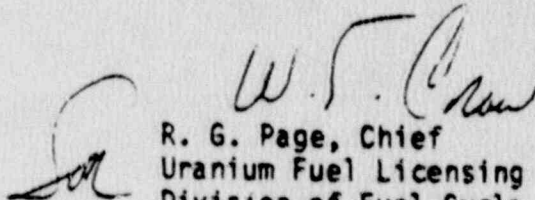
Gentlemen:

In accordance with our conversation with your Mr. George Rice on June 26, 1984 and pursuant to Title 10, Code of Federal Regulations, Part 40, Source Material License No. STA-583 is hereby amended to authorize the receipt and storage of excavated material which may contain source and/or byproduct material, resulting from the cleanup of the small contaminated areas in West Chicago, Illinois. This authorization is subject to the following conditions:

1. Material stored onsite shall be covered or treated to prevent dusting.
2. Contamination from Reed-Keppler Park or the West Chicago Sewage Treatment Plant shall not be received without prior approval of the Commission.

All other conditions of this license shall remain the same. Please note that trucks or other equipment used to move the contaminated material to the Kerr-McGee site must meet the unrestricted use criteria in Annex A to License No. STA-583 prior to leaving the Kerr-McGee site.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION


R. G. Page, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

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The criterion to be used for selecting areas to be cleaned is an external gamma radiation level that exceeds 35 uR/hr at one meter above the surface. The normal background in West Chicago according to the Frigerio Report, NUREG/CR-0413, is 12 to 36 uR/hr with about 95% of the values ranging between 14 and 25 uR/hr. The background values include both cosmic and terrestrial sources.

The project plan does not address conditions for storage of material at the KM site. The only concern during storage is dispersal of material by wind. The following condition has been added to the proposed amendment to address this problem:

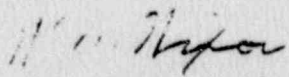
1. Material stored onsite shall be covered or treated to prevent dusting.

Removal of contaminated material from Reed-Keppler Park or the Sewage Treatment Plant may present more significant health, safety and environmental problems than does the cleanup of the other areas in West Chicago. NRC review of plans for remedial action at the Park and Treatment Plant will be necessary prior to the start of the remedial action. Therefore, the following condition is proposed.


2. Contamination from Reed-Keppler Park or the West Chicago Sewage Treatment Plant shall not be received.

Conclusion

Cleanup of the contaminated areas in West Chicago is in the public interest and under the organization and method of operation planned will not present significant health or safety concerns. Environmental values will be enhanced. I recommend that the amendment, conditioned as described above, be issued.


L. A. Nixon
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Approved by:


W. T. Crow, Section Leader



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAY 13 1986

FCUP:MLH
40-2061
STA-583, Amendment No. 11

Kerr-McGee Chemical Corporation
ATTN: Dr. John C. Stauter, Director
Nuclear Licensing and Regulation
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Gentlemen:

In accordance with your applications dated January 28, and April 24, 1986, and pursuant to Title 10, Code of Federal Regulations, Part 40, Source Material License No. STA-583 is hereby amended to authorize the receipt and storage of excavated material resulting from the cleanup of the Sewage Treatment Plant in West Chicago, Illinois and to authorize the movement of roof slabs from the factory site to the disposal site.

This authorization is subject to the following conditions:

1. Only the material currently within the fenced area of the Sewage Treatment Plant, which needs to be removed for construction purposes, is authorized for storage.
2. During transport of the material, you shall implement control measures to prevent dust dispersion and spillage from the transport vehicles.
3. Material stored onsite shall be covered or treated to prevent dusting.
4. The material removed from the West Chicago Sewage Treatment Plant shall be stored separately from all byproduct materials onsite.

All other conditions of this license shall remain the same.

Please note that prior to leaving the Kerr-McGee site, trucks used to move the contaminated material to the Kerr-McGee site must meet the unrestricted use criteria in Annex A to License No. STA-583.

A copy of the Safety Evaluation Report, the Finding of No Significant Impact, and the Environmental Assessment prepared in support of this licensing action is enclosed for your information.

RECEIVED
MAY 20 1986

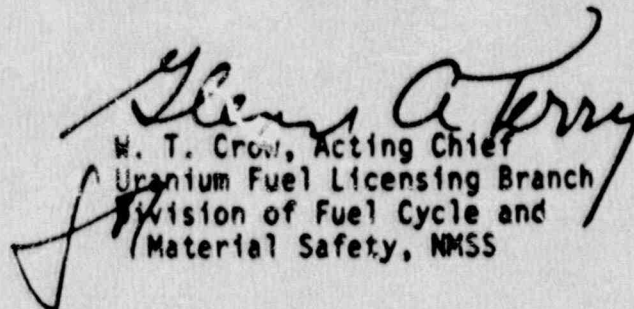
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ENCLOSURE

If you have any questions or we can be of additional assistance, please feel free to contact Merri Horn of my staff at 301-427-4510.

FOR THE NUCLEAR REGULATORY COMMISSION


W. T. Crow, Acting Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Enclosures: As stated



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20548

MAY 13 1986

FCUP:MLH

DOCKET NO: 40-2061

APPLICANT: Kerr-McGee Chemical Corporation (KM)
West Chicago, Illinois

SUBJECT: SAFETY EVALUATION REPORT FOR LICENSE AMENDMENT REQUEST DATED
JANUARY 28, AND APRIL 24, 1986

Background

The West Chicago Sewage Treatment Plant located in West Chicago, Illinois, is contaminated with thorium residues. An investigation by NRC's Region III staff has indicated waste tailings, from the Rare Earths Facility in West Chicago, were used as "fill" at this site in the 1930s and 1940s. As a result, there are several contaminated areas located at the Plant, both within and outside the fenced area. The City of West Chicago and the Kerr-McGee Chemical Corporation (KM) have entered into an agreement for the removal of the thorium contaminated material. The agreement calls for the material removed to be stored on the disposal site of the Rare Earths Facility. An amendment to the Rare Earths Facility Materials License is required to permit KM to receive and store the contaminated material on the site. By application dated January 28, 1986, KM requested that their license be amended to authorize storage of the material at the Rare Earths Facility in West Chicago, Illinois. The Mayor of the City of West Chicago, by written and oral communications, has requested that the NRC give prompt approval to the request.

By letter dated April 24, 1986, KM requested authorization for the movement of concrete roof slabs, currently stored on the factory site, to the disposal site. Current license restrictions prohibit the movement of demolition generated materials from the factory site to the disposal site without NRC authorization. The roof slabs are to be used in the construction of a stable retaining wall/truck stop.

Discussion

At the time of application, KM requested permission to receive all thorium contaminated material at both the Sewage Treatment Plant and Reed-Keppler Park. However, only the material currently within the fenced area of the Sewage Treatment Plant, which needs to be removed for construction purposes, is being considered under this review. Accordingly, the material located outside the fence at the West Chicago Sewage Treatment Plant is not being included in this authorization. Therefore, the following condition is proposed:

Only the material currently within the fenced area of the Sewage Treatment Plant, which needs to be removed for construction purposes, is authorized for storage.

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MAY 13 1986

Ongoing construction to expand and modernize the Sewage Treatment Plant has necessitated the removal of the thorium-bearing material at the treatment plant. Some of the contaminated soils are in areas where construction is either currently ongoing or planned. The material will have to be moved regardless of where it is stored. KM has requested permission from the NRC to allow receipt and storage of the material at the KM Rare Earths Facility in West Chicago Illinois.

KM will perform all of the work which requires expertise in radiation monitoring or handling contaminated material. Surface areas requiring excavation will be identified using gamma radiological survey instruments. Subsurface deposits will be identified from the characterization studies and by reviewing borehole logging data and records maintained from previous excavation work.

A gamma radiation level of 30uR/hr measured at one meter above the surface will be used as the criteria for cleanup, as agreed by KM and the City of West Chicago. Following excavation activities, KM will conduct a final survey to ensure that gamma exposure levels do not exceed the criteria. The City of West Chicago will restore the excavated areas after the excavation work is completed.

KM will conduct the excavation of the thorium-bearing materials in accordance with procedures contained in the KM West Chicago Facility Health Physics Manual, previously approved in License Amendment No. 7. Air samples will be collected during all work activities to determine airborne particle concentration in work areas. Water sprays and/or work practices will be used as needed for dust control during the excavation process.

Appropriate control measures will be implemented at the excavation and loading areas to ensure thorium materials are not spread by the transport operation. The soil is to be transported by KM to the West Chicago Facility in dump trucks and placed in the restricted area for storage. To ensure the safe transport of the thorium contaminated materials, the following condition is proposed:

During transport of the material, KM shall implement control measures to prevent dust dispersion and spillage from the transport vehicles.

Permission to receive and store the contaminated material from small scattered sites in the City was authorized in License Amendment No. 10, and this material is currently stored onsite without problem. The material to be removed from the Sewage Treatment Plant is a much smaller volume than the material from the residential areas and should not impose any problems during storage as long as the material is treated to prevent dusting. Although KM has indicated that water sprays or other dust control measures will be used as needed, they have not specifically committed to that, therefore, the following condition is recommended:

Material stored onsite shall be covered or treated to prevent dusting.

The materials are to be stored on the northern portion of the disposal area at the Rare Earths Facility near the material from the residential cleanup. Because these materials are considered source material and not byproduct material, they may come under the regulatory authority of the State of Illinois when Illinois becomes an Agreement State. To ensure that these materials are not mixed with byproduct materials onsite, the following condition is proposed:

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The material removed from the West Chicago Sewage Treatment Plant shall be stored separately from all byproduct materials onsite.

Movement of the concrete roof slabs from the factory site to the disposal site can be accomplished in a safe manner. Both areas are restricted so that no loss of material control will occur. Use of the slabs as a retaining wall will prevent the possibility of a truck backing over the edge of the dump station and will help contain the pile of contaminated material. Movement and use of the roof slabs for construction of a retaining wall/truck stop at the disposal site can be accomplished without significant impact on public health and safety.

Environmental Effects

In accordance with 10 CFR 51.31, an Environmental Assessment has been prepared for the requested license amendment. This Assessment supports a Finding of No Significant Impact and was published in the Federal Register on May 12, 1986.

Conclusion

Cleanup of the contaminated material and storage at the Rare Earths Facility is in the public interest. Under the organization and method of operation planned, the action can be taken without significantly impacting public health or safety. Issuance of the amendment is recommended subject to the following conditions:

1. Only the material currently within the fenced area of the Sewage Treatment Plant, which needs to be removed for construction purposes, is authorized for storage.
2. During transport of the material, ~~EM shall implement control measures to prevent dust dispersion and spillage from the transport vehicles.~~
3. Material stored onsite shall be covered or treated to prevent dusting.
4. The material removed from the West Chicago Sewage Treatment Plant shall be stored separately from all byproduct materials onsite.

Merri Horn

Merri Horn
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Approved by:

Norman K. Crow
for W. T. Crow, Section Leader



NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20545

MAY 05 1986

FCUP:MLH

DOCKET NO: 40-2061

APPLICANT: Kerr-McGee Chemical Corporation (KM)
West Chicago, Illinois

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR LICENSE AMENDMENT REQUEST DATED
JANUARY 28, 1986

Background

By letter dated January 28, 1986, KM requested an amendment to License No. STA-583 to allow thorium-bearing materials which are being removed from the Sewage Treatment Plant to be stored at the Rare Earths Facility in West Chicago, Illinois. KM and the City of West Chicago have entered into a Consent Decree for the removal of the thorium contaminated material. The agreement calls for the material removed to be stored on the disposal site of the KM Facility pending a determination of its permanent disposal. Only the material currently within the fenced area of the Sewage Treatment Plant, that needs to be removed for construction purposes, is considered in this review.

The Proposed Action

The proposed action is ~~issuance of an amendment to authorize the receipt and storage at the KM Facility of those thorium-bearing soils which are removed from the Sewage Treatment Plant.~~

Need for the Proposed Action

Ongoing construction to expand and modernize the Sewage Treatment Plant has necessitated the removal of the thorium-bearing material. Some of the contaminated soils are in areas where construction is either currently ongoing or planned. The material will have to be moved regardless of where it is stored.

Alternatives to the Proposed Action

One alternative to the proposal is to leave the material where it is now. This alternative is not feasible because of the construction.

Another alternative would be to move the material to another location on the Sewage Treatment Plant grounds. Because future expansion plans might require removal of the material to yet another location, offsite removal is preferred to limit the number of times this material must be handled.

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Any location to which the material is ultimately moved will have to be restricted to control access to the material. Measures would also have to be taken to prevent the spread of contaminated material. Any location chosen would have to be dedicated to that purpose and would become unavailable for other activities. Because the material originated from the Rare Earths Facility and the disposal site is already restricted, storage at the KM West Chicago Facility would appear to be the best solution.

Environmental Impacts

Currently, the contaminated soils are located in several areas of the Sewage Treatment Plant grounds, removal of the soils would result in the consolidation of material, thereby improving control.

KM will excavate the materials in accordance with approved procedures. Water sprays and/or dust control measures will be used as needed to control airborne particulate emissions during excavation, transportation, loading/unloading, and storage activities. Air samples will be collected during all work activities to determine the airborne particulate concentrations in work areas.

The disposal site at the KM Facility is a restricted area so that unauthorized people will not be able to gain access to the contaminated material. The material will be stored separately from the byproduct material currently onsite.

Transportation accidents could result in the spillage of the contaminated soils. However, spilled soils can be readily cleaned up, and the short-term effect of dust dispersion at an accident site would be insignificant.

A residential thorium removal program resulted in the receipt and storage of approximately 35,000 cubic yards of thorium-bearing soil. The storage of this material has not caused any adverse environmental impact. The perimeter air samples do not show any significant change in activity. The amount of material from the Sewage Treatment Plant that is to be stored at the site is approximately 12,000 cubic yards, this is about one third of that from the residential program. The storage of this amount of material should not cause any offsite environmental impact. KM is required to use water sprays or other dust control measures to ensure that material does not disperse offsite. KM's existing environmental monitoring program will be continued to confirm that the material is not dispersing offsite.

Conclusion

The receipt and storage of the material at the KM Facility can be accomplished in an environmentally safe manner. Receipt and storage of the material will

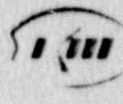
not endanger the public health and safety and is expected to have an insignificant environmental impact. Therefore, a Finding of No Significant Impact is considered appropriate for the proposed action, and in accordance with 10 CFR 51.31, no environmental impact statement is deemed necessary.

M. Horn

M. Horn
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Approved by:

W. T. Crow
W. T. Crow, Section Leader

 **KERR-McGEE CHEMICAL CORPORATION**
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

W.C.H.C.
MU 104 → Unincorporated
Residential
cleanup

September 1, 1989

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Leland C. Rouse, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle, Medical, Academic
& Commercial Use
Office of Nuclear Safety & Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: License STA-583
Docket 40-2061
Unincorporated Residential Areas in West Chicago

Dear Mr. Rouse:

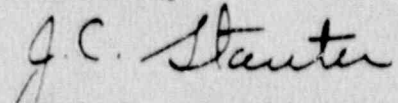
Kerr-McGee Chemical Corporation has resumed its off-site thorium cleanup program. This program, described in the enclosed attachment, provides for the survey, soil removal and restoration of unincorporated area residential properties. The cleanup protocol is the same as used for the incorporated City of West Chicago neighborhood cleanup program.

In accordance with License Amendment No. 10, dated July 10, 1984, authorizing receipt and storage at the licensed site of excavated material that may contain source and/or byproduct material resulting from cleanup of such affected locations, excavated soils generated from the unincorporated residential properties will be delivered to the site, inventoried for volume and radiological content, and stored separately on a location within the unincorporated area of the licensed West Chicago facility site. Management of these site located materials will be done according to established license requirements and procedures.

~~8909180073~~ 2 pp.

Should you have any questions regarding this activity please contact me at your earliest convenience.

Sincerely,


J.C. Stauter, Director
Environmental Affairs

JCS:gw

Attachment

cc: J. Knuepfer, County Board Chairman, DuPage County
T. Lash, Director, Illinois Department of Nuclear Safety
P. Netzel, Mayor, City of West Chicago
D. Novak, OSC, USEPA Region V Office
D. Rathe, Illinois Attorney General's Office
M. Schumacher, NRC Region III Office

OFF-SITE THORIUM REMOVAL PROGRAM
UNINCORPORATED RESIDENTIAL NEIGHBORHOODS
WEST CHICAGO, ILLINOIS

August 23, 1989

~~8909180138~~⁹ 7pp.

UNINCORPORATED WEST CHICAGO AREA, OFF-SITE THORIUM REMOVAL

Introduction

Thorium-containing materials have been identified at various locations in unincorporated areas near the City of West Chicago. The thorium bearing deposits are small in area and do not pose a health threat, but are both a source of adverse publicity and concern to the residents.

In recognition of this situation, Kerr-McGee Chemical Corporation is undertaking a voluntary program to remove certain thorium containing soil deposits from these unincorporated areas. Kerr-McGee is doing this in the spirit of cooperation and public interest, as Kerr-McGee does not have any legal responsibility to do so. The program elements are described below.

UNINCORPORATED RESIDENTIAL NEIGHBORHOOD THORIUM REMOVAL PROGRAM

The unincorporated area residential neighborhood program involves identifying the material to be removed, excavating and removing the material, restoring disturbed areas, and returning excavated materials to KMCC's licensed West Chicago facility. The removal program will exclude soils adjacent to and within waterways and below the existing water table. Excavated materials returned to the facility will be managed with similar materials previously removed from City of West Chicago properties.

A. Identifying Thorium-bearing Locations

1. Authorization: Oral permission to survey a property will be obtained by Kerr-McGee. The survey will be conducted by a trained Kerr-McGee survey team equipped with appropriate gamma field survey instruments.

2. Criterion: Any area on a property determined to have an external gamma radiation level that exceeds 35 micro-R per hour at one meter above the surface will be marked for removal subject to permission of the property owner.
3. Marking Areas: Areas identified as exceeding the removal criterion will be noted on sketches or maps of the property.

B. Removing Identified Materials

1. Excavating Thorium-Containing Material: Kerr-McGee will, in a careful and expeditious manner, remove identified materials using hand equipment and/or small machinery as appropriate to minimize property disturbances.

Excavation on a property will be started only after (i) Kerr-McGee has obtained the property owner's written permission on the form shown in Appendix 1, (ii) the existing physical conditions have been documented with photographs, and (iii) the homeowner has applied for and received the appropriate county excavation/fill permit authorizations.

2. Excavated Material: Kerr-McGee will place the excavated material in appropriate containers, such as drums, metal boxes or trucks and cover the tops. Kerr-McGee will promptly transport the material to an unincorporated parcel of the Kerr-McGee West Chicago facility for management in accordance with USNRC license conditions.
3. Resurveying Excavated Areas: Kerr-McGee will resurvey the area excavated using gamma survey instrumentation to assure that the material has been removed to the extent practicable.

4. Exceptions: If an area marked for removal includes a structure, Kerr-McGee and the property owner will consult and agree on a course of action in consideration of the physical conditions and potential for exposure to the materials.

C. Restoring Excavated Areas

1. Refilling Excavated Areas: After areas have been excavated, Kerr-McGee will, without unnecessary delay, refill with clean soil the areas from which the thorium-containing material has been removed and re-establish previous contours. Appropriate equipment will be used so as to keep disturbances to a minimum. Any plants, shrubs or structures that were removed to allow excavation will be returned (or replaced as appropriate) to locations documented in the photos (large older plants and shrubs may have to be replaced with small younger plants and shrubs).
2. Resurveying After Restoration: Kerr-McGee will resurvey the restored areas to document the external gamma levels.

D. Managing Excavated Material

1. Hauling to the Facility: Kerr-McGee will haul excavated materials to the facility site. The vehicles will be unloaded in an unincorporated area inside the licensed facility site boundary.
2. Handling at the Facility: Kerr-McGee may relocate the materials brought to the facility site within the unincorporated area. Containers to be reused will be emptied and returned to the facility site perimeter.

3. Stockpiling at the Facility: Excavated material relocated by Kerr-McGee to the facility site will be stockpiled separately from other materials on the site. Documentation will be maintained showing origin of the excavated material, quantities received, date of receipt, and level of radiation.
4. Future Responsibility: After material excavated under the unincorporated residential neighborhood thorium removal program has been unloaded at the facility site, the property owner from whose property the material originated will not have any further responsibility for the care and management of that material.

E. Personnel Requirements and Equipment

1. Survey Team: The survey team will consist of trained personnel provided by Kerr-McGee. The team will be equipped with a gamma survey instrument, large scale maps or sketches, and other items as required or appropriate for identifying locations with thorium-containing materials greater than 35 micro-R per hour at one meter.
2. Excavation Team: Kerr-McGee will provide an appropriately-manned excavation team as dictated by conditions involved for a specific location. The team will include a trained radiation surveyor to guide the removal of the material and its placement in containers and to assure adherence to radiation safety practices. Excavation equipment will consist of shovels, picks and other hand tools and where feasible, small mechanical diggers/loaders.
3. Hauling: The excavated material will be hauled by truck to the Kerr-McGee West Chicago facility.

4. Facility Handling Team: Trained Kerr-McGee site personnel will handle the material delivered to the facility.
5. Restoration Team: An appropriately manned restoration team and necessary restoration equipment will be provided by Kerr-McGee.

F. TIMETABLE AND MANNING

The unincorporated neighborhood thorium-containing material removal program is effective the date of this document. Removal work at specific properties will begin at a time agreed to by Kerr-McGee and the property owner following receipt of the property owner's oral authorization to survey and the identification of any materials requiring removal.

Project management will be under the direction of Kerr-McGee Chemical Corporation's West Chicago facility management and will include a health physicist. The project management personnel will have the authority to exercise judgment and make decisions to expedite the work.

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MATERIAL REMOVAL AND RESTORATION AGREEMENT

I am the owner of real property located at

I grant Kerr-McGee Chemical Corporation permission to enter the property named above and remove material and restore the areas from which the material has been removed, generally as described below.

REMOVAL: _____

RESTORATION: Property will be restored to original condition, as per photographs taken of the area, including yard, plantings and/or structures involved in the excavation process. Resident agrees to water all restored areas as necessary. Resident agrees that some plants, shrubs or trees may be replaced with like species younger and smaller in size consistent with nursery husbandry practices.

By: _____

Address: _____

Date: _____

0620q



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 4, 1990

Docket No. 40-2061
License No. STA-583

Kerr-McGee Chemical Corporation
ATTN: Dr. John C. Stauter, Vice President
Environmental Services
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Gentlemen:

We are enclosing a copy of the Environmental Assessment, Finding of No Significant Impact, and Notice of Opportunity for Hearing on your July 18, 1990 request for amendment of License No. STA-583. The amendment would authorize the receipt and storage at the Kerr-McGee Facility in West Chicago, Illinois, of thorium-contaminated materials which are being removed from off-site residential and commercial locations in DuPage County, Illinois. This notice has been forwarded to the Office of the Federal Register for publication.

If you have any questions or we can be of additional assistance, please feel free to contact Keith McDaniel of my staff (301) 492-3448.

Sincerely,

Charles J. Haughney, Chief
Fuel Cycle Safety Branch
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Enclosure:
As stated

~~40-2061-117~~ 4p.

ENCLOSURE 2

7590-01

U.S. NUCLEAR REGULATORY COMMISSION
ENVIRONMENTAL ASSESSMENT,
FINDING OF NO SIGNIFICANT IMPACT,
AND
NOTICE OF OPPORTUNITY FOR HEARING
RELATED TO
AMENDMENT OF MATERIALS LICENSE NO. STA-583
DOCKET NO. 40-2061
KERR-MCGEE CHEMICAL CORPORATION
WEST CHICAGO, ILLINOIS

The United States Nuclear Regulatory Commission (the Commission) is considering issuing an amendment of Materials License No. STA-583, held by Kerr-McGee Chemical Corporation (Kerr-McGee), to authorize the receipt and storage at the Kerr-McGee Facility in West Chicago, Illinois, of thorium-contaminated materials which are being removed from off-site residential and commercial locations in DuPage County, Illinois.

SUMMARY OF ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

By letter dated July 18, 1990, Kerr-McGee, the licensee, requested authorization to receive, store, and dispose of thorium-contaminated soils currently located in off-site residential and commercial locations in DuPage County.

The Need for the Proposed Action:

The areas of thorium-contaminated soil are relatively small in area, but are a source of radiation exposure and concern to the nearby residents. In recognition of this situation, Kerr-McGee has undertaken a program to remove these deposits and store them on the Kerr-McGee Rare Earths Facility. An

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amendment to Kerr-McGee's Material License STA-583 is required to permit Kerr-McGee to receive and store the thorium-contaminated material onsite.

Environmental Impacts of the Proposed Action:

Currently, the contaminated soils are located at approximately 40 different locations offsite. Removal of the soils would result in the consolidation of material, thereby improving control.

Kerr-McGee will excavate the thorium-contaminated material in accordance with approved procedures. Water sprays and/or dust control measures will be used as needed to control airborne particulate emissions during excavation, transportation, loading/unloading, and storage activities. Air samples will be collected during all work activities to determine the airborne particulate concentrations in work areas. Kerr-McGee's existing environmental monitoring program will be continued to confirm that the material is not dispersing offsite once stored.

The disposal site at the Kerr-McGee Facility is a restricted area so that unauthorized people will not be able to gain access to the contaminated material. The thorium-contaminated material will be stored separately from other materials onsite, and documentation will be maintained showing the origin of the excavated material, quantities received, date of receipt, and level of radiation.

Transportation accidents could result in the spillage of the thorium-contaminated soils. However, spilled soils can be readily cleaned up, and the short-term effect of dust dispersion at an accident site would be insignificant.

Previous permission to receive and store thorium-contaminated material from small scattered sites in the City of West Chicago and the West Chicago Sanitary Treatment Plant was authorized in License Amendments No. 10 and No. 11, dated July 10, 1984, and May 13, 1986, respectively. Estimates based on experience with the earlier clean-up programs indicate quantities of off-site contaminated soils, exclusive of that in Reed-Keppler Park and at the Sanitary

Treatment Plant, would be roughly 20,000 cubic meters. This is a small increment to the 376,400 cubic meters which the licensee is currently authorized to dispose, and would not significantly alter the evaluation of the environmental impacts and costs presented in the April 1989 Supplement to the Final Environmental Statement related to the decommissioning of the Rare Earths Facility, West Chicago, Illinois. Indeed, the quantity is appreciably less than the 48,600 cubic meters which is included as a contingency amount in the 376,400 cubic meters.

Conclusion:

The staff believes that receipt and storage of the thorium-contaminated material can be accomplished in an environmentally safe manner and that the operation is expected to have an insignificant environmental impact. Therefore, the staff concludes there will be no significant impacts associated with the proposed action. Consequently, consolidating the various deposits of off-site thorium-contaminated soils onto a restricted site will provide greater protection to the public.

Alternative to the Proposed Action:

One alternative to the proposal is to leave the thorium-contaminated material where it is now. Due to the unrestricted areas in which the material currently is located and the radiation exposure and concern to the nearby residents, this alternative is not favored.

Another alternative would be to move the thorium-contaminated material to another location. Any location to which the material is ultimately moved will have to be restricted to control access to the material. Measures would also have to be taken to prevent the spread of contaminated material. Any location chosen would have to be dedicated to that purpose and would become unavailable for other activities. Because the thorium-contaminated material originated from the Rare Earths Facility and the disposal site is already restricted, storage at the Kerr-McGee West Chicago Facility would appear to be the best solution.

Agencies and Persons Contacted:

The NRC staff held informal discussions with State of Illinois and City of West Chicago agencies.

Finding of No Significant Impact:

Based on the foregoing Environmental Assessment, the Commission has determined not to prepare an Environmental Impact Statement and has determined that a Finding of No Significant Impact is appropriate.

Opportunity for a Hearing:

Any person whose interest may be affected by the issuance of this amendment may file a request for a hearing. Any request for hearing must be filed with the Office of the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, within 30 days of the publication of this notice in the Federal Register; be served on the NRC staff (Executive Director for Operations, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852); on the licensee Kerr-McGee Chemical Corporation, ATTN: Mr. John Stauter, Kerr-McGee Center, Oklahoma City, Oklahoma 73125; and must comply with the requirements for requesting a hearing set forth in NRC regulation, 10 CFR Part 2, Subpart L, "Informal Hearing Procedures for Adjudications in Materials Licensing Proceedings." These requirements, which the requestor must describe in detail, are:

1. The interest of the requestor in the proceeding;
2. How that interest may be affected by the results of the proceeding, including the reasons why the requestor should be permitted a hearing;
3. The requestor's areas of concern about the licensing activity that is the subject matter of the proceeding; and

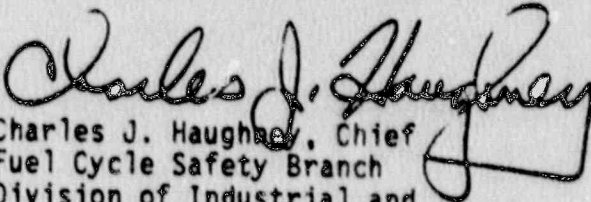
4. The circumstances establishing that the request of hearing is timely, that is, filed within 30 days of the date of this notice.

In addressing how the requestor's interest may be affected by the proceeding, the request should describe the nature of the requestor's right under the Atomic Energy Act of 1954, as amended, to be made a party to the proceeding; the nature and extent of the requestor's property, financial, or other (i.e., health, safety) interest in the proceeding; and the possible effect of any order that may be entered in the proceeding upon the requestor's interest.

The July 18, 1990, application, and the Commission's Finding of No Significant Impact and the Environmental Assessment are available for public inspection and copying at the Commission's Public Document Room, The Gelman Building, 2120 L Street NW., Washington, D.C. 20555 and the Local Public Document Room at the West Chicago Public Library, 325 E. Washington Street, West Chicago, Illinois 60185.

Dated at Rockville, Maryland, this 4th day of October 1990.

FOR THE NUCLEAR REGULATORY COMMISSION


Charles J. Haughney, Chief
Fuel Cycle Safety Branch
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards