

Special Exposure Cohort Petition — Form A

Use of this form and disclosure of Social Security Number are voluntary. Failure to use this form or disclose this number will not result in the denial of any right, benefit, or privilege to which you may be entitled.

Instructions on Completing this Form:

You should use this petition form only if NIOSH has reported to you in writing that it cannot complete the dose reconstruction needed for your cancer claim.

All other petitioners should use Petition Form B to submit a petition to NIOSH.

For Further Information: If you have questions about these instructions, please call the following NIOSH toll-free phone number and request to speak to someone in the **Office of Compensation Analysis and Support** about an SEC petition: **1-800-356-4674**.

A NIOSH Claim Information — Complete as much information as you can in Section A.

A.1 NIOSH Tracking Number (indicated on all NIOSH correspondence):

A.2 Print Name of Energy Employee for whom this claim was filed:

Mr./Mrs./Ms. First Name Middle Initial Last Name

A.3 Social Security Number of Energy Employee for whom this claim was filed:

B Signature of Person Submitting this Petition — Complete Section B.

Print and sign your name below to indicate that you are petitioning for HHS to consider adding a class of employees to the Special Exposure Cohort that would include the employee indicated by the tracking number or name under entry 1 above.

Print your name below:

Sign your name below:

First Name Middle Initial Last Name

First Name Middle Initial Last Name

C Please send this form to NIOSH at the address below.

Once NIOSH receives this form, the U.S. Department of Health and Human Services will consider adding a class of employees to the Special Exposure Cohort. Your contact at NIOSH will be available to inform you of the progress of your petition.

Send this form to:

ARRIL JENKINS, CLAIMS REP.
SEC Petition
Office of Compensation Analysis and Support
NIOSH
4676 Columbia Parkway, MS-C-47
Cincinnati, OH 45226

Special Exposure Cohort Petition

under the Energy Employees Occupational
Illness Compensation Act

U.S. Department of Health and Human Services

Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

OMB Number: 0920-0639

Expires: 05/31/2007

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Petitioner Authorization Form

Use of this form is voluntary. Failure to use this form will not result in the denial of any right, benefit, or privilege to which you may be entitled.

Instructions:

If you wish to petition HHS to consider adding a class of employees to the Special Exposure Cohort and you are NOT either a member of that class, a survivor of a member of that class, or a labor organization representing or having represented members of that class, then 42 CFR Part 83, Section 83.7(c) requires that you obtain written authorization. You can obtain such authorization from either an employee who is a member of the class or a survivor of such an employee. You may use this form to obtain such authorization and submit the completed form to NIOSH with the related petition. **Please print legibly.**

For Further Information: If you have questions about these instructions, please call the following NIOSH toll-free phone number and request to speak to someone in the **Office of Compensation Analysis and Support about an SEC petition: 1-800-356-4674.**

Authorization for Individual or Entity to Petition HHS on Behalf of a Class of Employees for Addition to the Special Exposure Cohort

I, _____
Name of Class Member or Survivor

_____ Apt. # _____ P.O. Box _____
Street Address of Class Member or Survivor

_____ City, State, Zip Code of Class Member or Survivor

do hereby authorize:

_____ Name of Petitioner

_____ Apt. # _____ P.O. Box _____
Address of Petitioner

_____ City, State and Zip Code of Petitioner

to petition the Department of Health and Human Services on behalf of a class of employees that includes:

_____ Name of Class Member (employee, not the employee's survivor)

for the addition of the class to the Special Exposure Cohort, under the Energy Employee's
O _____ (42 U.S.C. §§ 7384-7385).

ie petitioner named above will have all the rights 83.

5/17/2007
Date

Name or Social Security Number of First Petitioner

Petitioner Authorization Form

Public Burden Statement

Public reporting burden for this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, gathering the information needed, and completing the form. If you have any comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, send them to CDC Reports Clearance Officer, 1600 Clifton Road, MS-E-11, Atlanta GA, 30333; ATTN:PRA 0920-XXXX. Do not send the completed petition form to this address. Completed petitions are to be submitted to NIOSH at the address provided in these instructions. Persons are not required to respond to the information collected on this form unless it displays a currently valid OMB number.

Use of this form is voluntary. Failure to use this form will not result in the denial of any right, benefit, or privilege to which you may be entitled.

Name or Social Security Number of First Petitioner:

Special Exposure Cohort Petition — Form A

Public Burden Statement

Public reporting burden for this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, gathering the information needed, and completing the form. If you have any comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, send them to CDC Reports Clearance Officer, 1600 Clifton Road, MS-E-11, Atlanta GA, 30333; ATTN:PRA 0920-XXXX. Do not send the completed petition form to this address. Completed petitions are to be submitted to NIOSH at the address provided in these instructions. Persons are not required to respond to the information collected on this form unless it displays a currently valid OMB number.

Privacy Act Advisement

In accordance with the Privacy Act of 1974, as amended (5 U.S.C. § 552a), you are hereby notified of the following:

The Energy Employees Occupational Illness Compensation Program Act (42 U.S.C. §§ 7384-7385) (EEOICPA) authorizes the President to designate additional classes of employees to be included in the Special Exposure Cohort (SEC). EEOICPA authorizes HHS to implement its responsibilities with the assistance of the National Institute for Occupational Safety (NIOSH), an Institute of the Centers for Disease Control and Prevention. Information obtained by NIOSH in connection with petitions for including additional classes of employees in the SEC will be used to evaluate the petition and report findings to the Advisory Board on Radiation and Worker Health and HHS.

Records containing identifiable information become part of an existing NIOSH system of records under the Privacy Act, 09-20-147 "Occupational Health Epidemiological Studies and EEOICPA Program Records. HHS/CDC/NIOSH." These records are treated in a confidential manner, unless otherwise compelled by law. Disclosures that NIOSH may need to make for the processing of your petition or other purposes are listed below.

NIOSH may need to disclose personal identifying information to: (a) the Department of Energy, other federal agencies, other government or private entities and to private sector employers to permit these entities to retrieve records required by NIOSH; (b) identified witnesses as designated by NIOSH so that these individuals can provide information to assist with the evaluation of SEC petitions; (c) contractors assisting NIOSH; (d) collaborating researchers, under certain limited circumstances to conduct further investigations; (e) Federal, state and local agencies for law enforcement purposes; and (f) a Member of Congress or a Congressional staff member in response to a verified inquiry.

This notice applies to all forms and informational requests that you may receive from NIOSH in connection with the evaluation of an SEC petition.

Use of the NIOSH petition forms (A and B) is voluntary but your provision of information required by these forms is mandatory for the consideration of a petition, as specified under 42 CFR Part 83. Petitions that fail to provide required information may not be considered by HHS.

**Instructions for Completing Special Exposure
Cohort Petition — Form B**

OMB Number: 0920-0639

Expires: 05/31/2007

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Use of Form B and disclosure of Social Security Number are voluntary. Failure to use Form B or disclose this number will not result in the denial of any right, benefit, or privilege to which you may be entitled.

Instructions on Completing Special Exposure Cohort Petition — Form B

Introduction

The Energy Employees Occupational Illness Compensation Program Act (the Act) authorizes the U.S. Secretary of Health and Human Services (HHS) to consider petitions by classes of current and/or former employees at facilities of either the Department of Energy (DOE) or Atomic Weapons Employers (AWEs) requesting to be added to the Special Exposure Cohort. HHS has issued procedures that explain how such employees, their survivors, or individuals or organizations authorized in writing to represent them, can submit a petition and how the outcome of the petition will be decided. The procedures, titled: "Procedures for Designating Classes of Employees as Members of the Special Exposure Cohort" (federal regulations at 42 CFR Part 83), are available from HHS at the address provided below.

SEC Petition
Office of Compensation Analysis and Support
NIOSH
4676 Columbia Parkway, MS-C-47
Cincinnati, OH 45226

Use this form **unless** NIOSH has reported to you in writing that it cannot complete the dose reconstruction needed for your cancer claim. If so, use Special Exposure Cohort Petition — Form A. You do not have to use either form to submit a petition. The forms are intended to assist petitioners in providing the complete information required by HHS as efficiently as possible.

Hardcopy Submissions: Submit completed forms to the following address:

SEC Petition
Office of Compensation Analysis and Support
NIOSH
4676 Columbia Parkway, MS-C-47
Cincinnati, OH 45226

For Further Information: If you have questions about these instructions, please call the following NIOSH toll-free phone number and request to speak to someone in the **Office of Compensation Analysis and Support** about an SEC petition: **1-800-356-4674**.

Instructions for Completing Special Exposure
Cohort Petition — Form B

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IMPORTANT: Petitions **DO NOT** need to be submitted by all potential members of a class of employees. ("Class" has a very specific legal meaning under the HHS rule. Petitioners should consider "class" to mean the group of employees who worked at the same DOE or AWE facility and who believe they, as a group, should be added to the Special Exposure Cohort). A single member of a class of employees, the survivor of a member, or an individual or entity authorized in writing by a member or survivor can petition on behalf of the entire class. Petitioners are not required by HHS to contact other members of the class or obtain their consent to submit a petition, although petitioners may wish to obtain information useful to the petition from other members of the class.

Instructions

Please read each of parts A — G in the form and complete only those parts appropriate to you according to these instructions. A checklist has been provided on the last page of these instructions to help ensure that you have properly completed all of the sections applicable to you. Except for signatures, please **PRINT** all information clearly and neatly on the form.

If there is more than one petitioner, then each petitioner should complete those sections of parts A — C of the form that apply to them. Additional copies of the first two pages of this form are provided at the end of the form for this purpose. A maximum of three petitioners is allowed but only one petitioner is required. Limiting the number of petitioners to three for each petition does not limit the number of members of the class covered by a petition, but will enable HHS to consider and decide petitions more efficiently.

If you need more space to provide additional information, use the continuation page provided at the end of the form and attach the continuation page(s) to Form B.

Part A

Petitioner Information: Complete Part A if you are an individual or entity authorized by an employee or a survivor to petition on behalf of a class of employees, as provided for under 42 CFR Part 83.7 (c).

A.1 — Are you a contact person for an organization (other than a labor union): If you are a contact person for an organization, other than a labor organization, check Yes and go to A.2; if you are not a contact person, check No and go to A.3.

A.2 — Organization Information: If you are a contact person for a legally constituted organization, a firm, or another type of entity, enter the name of the organization and your position as the person who will serve as the principal contact with HHS for this petition. If you are NOT a contact person, leave this entry blank.

A.3 — Name of Petitioner Representative: Enter your full legal name (applies to both a contact person and an authorized representative of an energy employee or survivor). *DURABLE POWER OF ATTY FOR FAMILY*
SEE ATTACHE 10

A.4 — Address: Enter your current mailing address.

A.5 — Telephone number: Enter the telephone number at which you can be reached from 8:00 am to 5:30 pm Eastern Standard Time on weekdays. Please specify more limited hours when you are available, if necessary.

A.6 — Email Address: (Optional) Enter your email address at work or home.

A.7 — Authorization: Check the box and attach the written authorization, as indicated. A separate authorization form, "Petitioner Authorization Form", is available for this purpose.

If you are representing a survivor, go to Part B; if you are representing an employee, go to Part C.

REPRESENTATION

I. DURABLE POWER OF ATTORNEY

Instructions for Completing Special Exposure
Cohort Petition — Form B

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Part B

Petitioner Information: Complete Part B if you are a Survivor of a former Energy Employee. Also complete this Part if you are an individual or entity (other than a labor organization) authorized by an employee or survivor to petition on behalf of a class of employees.

B.1 — Name of Survivor: Enter the full legal name of the survivor _____

B.2 — Social Security Number: (Optional) Providing a Social Security number is voluntary. Failure to disclose this number will not result in the denial of any right, benefit, or privilege to which you may be entitled. Personal information, like your social security number, will be protected under the Privacy Act.

Enter the Social Security Number of the survivor. If you are an authorized representative, make sure you have permission to enter the survivor's Social Security Number.

B.3 — Address: Enter the survivor's current mailing address. _____

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

B.4 — Telephone Number: Enter the telephone number at which the survivor can be reached from 8:00 am to 5:30 pm Eastern Standard Time on weekdays. Please specify more limited hours of availability, if necessary _____

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

B.5 — Email Address: (Optional) Enter the survivor's email address at work or home. _____

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

B.6 — Relationship to Employee: Check the relationship of the survivor to the energy employee.
FAMILY

Go to Part C

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Part C

Petitioner Information: Complete Part C if you are an Energy Employee or a Survivor. Also complete this Part if you are an individual or entity (other than a labor organization) authorized by an employee or survivor to petition on behalf of a class of employees.

This section is to be completed by petitioners who are employees of DOE/AWE facilities or their survivors, or by petitioners authorized by employees or their survivors. This section does not have to be completed by labor organizations submitting a petition (labor organizations should complete Part D).

Please complete all the entries in this section, as applicable. The form allows for as many as three petitioners to provide this complete information if they so desire, but this is not necessary. We only require that a single petitioner provide complete information for this section.

C.1 — Name of Employee: Enter the full legal name of the energy employee.

C.2 — Former Name of Employee: If the employee had a different name at the time of employment at the DOE or Atomic Weapons Employer facility (for example, a maiden name), enter that name.

C.3 — Social Security Number: (Optional) Providing a Social Security Number is voluntary. Failure to disclose this number will not result in the denial of any right, benefit, or privilege to which you may be entitled. Personal information, like your social security number, will be protected under the Privacy Act.

Enter the Social Security Number of the energy employee. If you are an authorized representative, make sure you have permission to enter the employee's Social Security Number.

C.4 — Address: Enter the current mailing address of the energy employee. — DECEASED

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

C.5 — Telephone Number: Enter the telephone number at which the employee can be reached from 8:00 am to 5:30 pm Eastern Standard Time on weekdays. Please specify more limited hours of availability, if necessary. DECEASED

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry.

C.6 — Email Address: (Optional) Enter the employee's email address at work or home.

If you are authorized to petition by an employee or a survivor under Part A of this form, you do not need to complete this entry. DECEASED

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Cohort Petition — Form B

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C.7 — Employment Information Related to Petition: Enter the following employment information about this petition:

C.7a — Employee Number: Enter the employee number, if you know it. Not all employers assigned employee numbers. **NOT KNOWN**

C.7b — Dates of Employment: Enter the dates of employment at the facility (or approximate dates, if employment records are unavailable), from start date to end date. **EARLY 1960S**

C.7c — Employer Name: Enter the name of the employer. **SPENCER CHEMICAL**

C.7d — Work Site Location: Enter the location of the facility and work site relevant to the petition. Be as specific as possible about the work site, naming the specific building or work area if possible, as well as the facility location (e.g., Idaho National Engineering Laboratory). **COMPANY — GALENA, KANSAS JAYHAWK WORKS LABORATORIES**

C.7e — Supervisor's Name: Enter the Supervisor's name, if known. **SEC, GALENA, KS.**

Go to Part E

Part D

Petitioner Information: Complete Part D if you are a labor organization.

This section is to be completed only by labor organizations submitting a petition on behalf of employees they represent or represented. If you are not such a labor organization, you should skip this part.

D.1 — Labor Organization Information: Enter the name of the labor organization and the position of the person who will serve as the principal contact with HHS for this petition.

D.2 — Name of Petition Representative: Enter the name of the official who will serve as the principal contact for HHS communications and inquiries regarding this petition. **NOT A MEMBER OF LABOR ORGANIZATION NA**

D.3-D.5 — Contact Information: Enter the address, telephone number, and e-mail address of the labor official who will serve as the principal contact for HHS. **NA**

D.6 — Period during which labor organization represented employees covered by this petition: Enter dates as indicated. For active facilities at which your labor organization continues to represent employees, enter the date of the petition for the "end date." Please attach related documentation (e.g., relevant pages of labor-management contracts or NLRB certification). **NA**

D.7 — Identity of other labor organizations that may represent or have represented this class of Employees: Enter the names of any other labor organizations who may currently represent some members of the class of employees or have represented members of this class in the past, if you are aware of any. This information may assist HHS in contacting members of the petitioning class for information or to notify them, should HHS add their class to the Cohort. **NA**

Go to Part E

**C.7b - WORKED FOR SEC FROM 10/29/45 - DEATH FROM PANCREATIC CANCER
DIFFERENT LOCATIONS
START OPERATIONS SPENCER / JAYHAWK
TO SEPT. 30, 1962. EARLY DEATH
EMPLOYMENT JAYHAWK WORKS - 1960S -**

Instructions for Completing Special Exposure
Cohort Petition — Form B

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Part E

Proposed Definition of Employee Class Covered by Petition

The information provided in this section will assist HHS in evaluating the petition. Petitioners should note that it is possible that, as HHS conducts its evaluation of a class, it may revise the definition proposed by the petitioner, making the class more expansive or more specific, and possibly combining the classes of several petitions or dividing the class of a single petition into two or more classes. Ultimately, HHS must define classes consistent with the criteria for determining whether or not the class should be added to the Cohort.

E.1 — Name of DOE or AWE Facility: Enter the name of the DOE or AWE facility where the class of employees covered by this petition was employed. SPENCER CHEMICAL COMPANY GALENA, KANSAS

NOTE: Although individual employees may have worked at more than one facility during their career, a petition must be specific to a class of employees at a single facility, as specified by the Act. It is acceptable to file petitions for more than one facility; however, you must file a separate petition for each facility.

E.2 — Locations at the Facility relevant to this petition: Name or describe the location(s) at the facility relevant to this petition; the locations where members of the class were exposed to radiation. If the location does not have a name, such as a building number or floor or room of a building, describe the location by its more specific characteristics, such as the operation or process conducted there, or the equipment, fixtures, or facilities in that location. Be as specific as possible. LABORATORIES

E.3 — List job titles and/or job duties of employees included in the class: List the job titles and/or job duties that characterize employees who you believe belong in the class, to the extent necessary to define the class. EMPLOYEES ENRICHING URANIUM

Examples: LABORATORY PERSONNEL SERVICED AGRICULTURAL + AWE DIVISIONS

- If you can define the class by job duties alone, and you believe that anyone with such job duties should be included in the class, listing the job duties would be sufficient.
- If you believe all employees in a location during a period of time should be included in the class, regardless of job title or job duty, enter an "all" here instead of specifying job titles or job duties. ALL EMPLOYEES
- However, if you believe that only persons with certain job duties involved in certain operations or processes should be included in the class, you must specify this. NA

The point is to define the class carefully and specifically, so that it includes all employees for whom you believe radiation doses cannot be estimated and whose health could have been endangered, and only such employees. To be certain your definition covers all employees that you intend to include, you may choose to list by name individuals who should be included in the class and who have not already been identified among the petitioners you have listed in this form.

E.4 — Employment Dates relevant to this petition: Enter the approximate or precise dates of the period of employment that applies to the petition. For example, the potential exposures to radiation may have occurred during a period of a certain operation, during a period when certain radiation protection policies were in place, during a period when radiation monitoring was omitted, or during a period for which exposure and monitoring records are lost.

E-4
EMPLOYMENT DATES JAY HAWK WORKS
1960'S - 1970'S (DEATH)
1.1 WORKER EAR COCAINE 10/29/45 - 1970'S

EMPLOYMENT DOCUMENTS

I CHEURON CORRES.

SCC ACQUIRED BY GULF OIL THEN
CHEURON.

II MILITARY RECORDS

III SOCIAL SECURITY
RECORDS

8 pages of employment records withheld

ChevronTexaco

ChevronTexaco Corporation
Human Resources Service Center
P. O. Box 436
Little Falls, NJ 07424

February 28, 2002

The Chevron Human Resources Service Center recently received and reviewed your correspondence pertaining to the records of

Please be advised that historical records are kept for deceased employees for a total period of seven (7) years after the date of death. According to your letters, [redacted] died approximately 35 years ago. Therefore, we do not have any employee records on file, including the locations where he would have worked.

If you have any questions, call the Human Resources Service Center toll-free at 1-888-TALK2HR (1-888-825-5247). The automated telephone system is available 24 hours a day, seven days a week. Customer Service Representatives are available from 6 a.m. to 5 p.m., Pacific Time, Monday through Friday, except on holidays.

Sincerely,

Chevron Human Resources Service Center

Human Resources Service Center
Phone: 1-888-825-5247 • Fax: 1-888-329-8647 • <https://www2.benefitsweb.com/chevron.html>
Customer Service Representatives: 6 a.m. to 5 p.m. Pacific Time, Monday thru Friday
Automated Telephone System and Benefits Connection Web site: 24 hours a day, 7 days a week

BUREAU OF NAVAL PERSONNEL

ANNUAL QUALIFICATIONS QUESTIONNAIRE
OFFICERS ON INACTIVE DUTY

REPORT PERIOD

NAVY-ERS-215 (REV. 1-45)
To be submitted by all officers on inactive duty. COMPLY WITH INSTRUCTIONS

1. NAME (Last) (First) (Middle) RANK AND CLASSIFICATION FILE NO. 283

PRESENT ADDRESS (Street and No.) (City) (State) File address on this Communication Service? NAVAL DISTRICT (Check one) NO. OF DEPENDENTS
 YES NO 9th SINGLE MARRIED INTS 3

K. BRANCH (Check one) ORGANIZED USNR VOLUNTEER USNR USNR (Fleet Reserve) USNR (Merchant Marine) RETIRED USNR DATE OF LAST PHYSICAL (Year or Month) 9-1-48

LIST ONLY CHANGES SINCE LAST REPORT FOR FOLLOWING ITEMS

2. IF AVIATOR, indicate number of flight hours last year for each type aircraft. (F5F, TBM, PB4, etc.) List most recent type first.	PERIOD	FIRST SIX MONTHS		SECOND SIX MONTHS		TOTAL HRS.
		TYPE OF AIRCRAFT				

4. FOREIGN LANGUAGE ABILITY	TRANSLATE			INTERPRET			5. FOREIGN RESIDENCE AND TRAVEL	WEEKS
	GOOD	FAIR	POOR	GOOD	FAIR	POOR		
None								

HOW WAS LANGUAGE ABILITY ACQUIRED?

6. CIVILIAN EDUCATION (College or University) FROM TO DEGREE DATE MAJOR SUBJECT
 University of Missouri 1935 B.S. Soil Chemistry

THREE OF TECHNICAL SCHOOL ATTENDED COURSE HOUSE OF INSTRUCTION

7. NAVAL CORRESPONDENCE COURSES (Title)	COMPLETED	IN PROGRESS
None		

8. LIST LICENSES, REGISTRATIONS, FELLOWSHIPS, AND BOARD CERTIFICATIONS NOW IN EFFECT	DATE OF FIRST LICENSE OR REGISTRATION	DATE OF MOST RECENT LICENSE OR REGISTRATION
None		

9. CIVILIAN EMPLOYMENT	DUTIES AND RESPONSIBILITIES (Attach additional page if required)
PLACE (City) Parsons Kansas FROM: 5 TO: Present NAME OF EMPLOYER Spencer Chemical Company KIND OF BUSINESS Chemicals NO. AND CLASS OF EMPLOYEES YOU SUPERVISE 140 Plant Operators EXACT TITLE OF YOUR POSITION Senior ANNUAL SALARY (Optional) <input type="checkbox"/> BELOW \$2000 <input type="checkbox"/> \$2000 TO \$3000 <input checked="" type="checkbox"/> \$3000 TO \$4000 <input type="checkbox"/> ABOVE \$4000 SPECIAL, DENTAL OR LEGAL OFFICER; CURRENT SPECIALTY PRACTICED	

10. If member of an Organization of the Naval Reserve, GIVE TITLE OF THE ORGANIZATION AND DUTIES THEREIN

11. IN VIEW OF YOUR TOTAL NAVAL AND CIVILIAN EXPERIENCE, FOR WHAT ASSIGNMENT DO YOU CONSIDER YOU ARE BEST SUITED IN THE EVENT OF A NATIONAL MOBILIZATION?

AFLOAT:

ASHORE:

12. LIST ANY PHYSICAL DISQUALIFICATIONS OR LIMITATIONS WHICH YOU KNOW YOU HAVE

ARE YOU PHYSICALLY QUALIFIED FOR SEA DUTY?
 YES NO DON'T KNOW

13. GENERAL REMARKS: (List Residences, Hospital and Teaching appointments, membership in professional and scientific societies, lecturing, publications, papers, inventions, special skills and hobbies, business and professional activities, and other information which might aid in reviewing your qualifications.)

ANNUAL QUALIFICATIONS QUESTIONNAIRE
NAVY RESERVE OFFICERS OR INACTIVE DUTY
NAVYMAN 319 (Rev 9-48)

BUREAU OF NAVAL PERSONNEL

FILE NO
32302

To be submitted by the officer to the
1. NAME

BRANCH: USNR NAME OF VESSEL: USSR NUMBER ONE: 10000 DATE OF NEXT COMMISSION: 10-48 DATE OF PRESENT NAME: USSR

PRESENT ADDRESS (STREET AND NO.) 10000 CITY: 10000 STATE: 10000 NEAR DISTRICT: 10000
OFFICIAL RESIDENCE (STREET AND NO.) 10000 CITY: 10000 STATE: 10000
NAME AND ADDRESS OF NEXT OF KIN: None
COMMISSION RECEIVED VIA: U.S. ACADEMY YR. NAOTC YR. USNR HIGH SCHOOL DIRECT PROCUREMENT REG. RES.
 OTHER (SPECIFY):

2. FOREIGN LANGUAGE ABILITY

	TRANSLATE			INTERPRET		
	Good	Fair	Poor	Good	Fair	Poor

4. SPECIAL SKILLS, HOBBIES, ETC.

3. CIVILIAN EDUCATION

COLLEGE OR UNIVERSITY	DATES ATTENDED FROM TO	TYPE		DEGREE COURSE	TITLE	DATE	REMARKS (e.g., HONORABLE MENTION)
		DAY	NIGHT				

UNDERGRADUATE MAJOR: _____ GRADUATE MAJOR: _____
TRADE OR TECHNICAL SCHOOL ATTENDED: _____ COURSE: _____ HOURS OF INSTRUCTION: _____

5. NAVAL CORRESPONDENCE COURSES

COURSE	COMPLETED	
	YES	NO

6. FOREIGN RESIDENCE AND TRAVEL

PLACE	PERIOD

7. LIST LICENSES NOW IN EFFECT IN TRADES OR PROFESSIONS

LICENSE	DATE OF FIRST LICENSE	DATE OF MOST RECENT LICENSE

8. CIVILIAN EMPLOYMENT

PLACE (CITY, STATE)	EXACT TITLE OF YOUR POSITION
Pittsburg, Kansas	Analytical work
FROM: _____ TO: Present	
NAME OF EMPLOYER: Spencer Chemical Co.	
KIND OF BUSINESS: Chemical	
NO. AND CLASS OF EMPLOYEES YOU SUPERVISE: None	
INITIAL SALARY (Annual) _____	

9. PUBLICATIONS, INVENTIONS, SPECIAL QUALIFICATIONS

10. IN VIEW OF YOUR TOTAL NAVAL AND CIVILIAN EXPERIENCE, FOR WHAT ASSIGNMENT DO YOU CONSIDER YOU ARE MOST SUITED IN EVENT OF A NATIONAL MOBILIZATION?
AFFILIATION: Communications ASSIGNMENT: Communications DATE OF LAST NAVY FOR SEA DUTY: 10-48

11. PEACETIME ASSIGNMENT IN NAVAL RESERVE

Attachment to or association with any unit of the ORGANIZATION OF NAVAL RESERVE OFFICERS

SILET: Communications Off UNIT: _____ LOCATION: Joplin, Mo.

NO. OF DRILLS ATTENDED: None NO. OF DAYS TRAINING: None LOCATION OF TRAINING: None TOTAL NAVY TRAINING DUTY IN FEDERAL SERVICE: None

IF NOT A MEMBER OF THE ORGANIZATION OF NAVAL RESERVE OFFICERS, DO YOU WISH TO ENROLL? YES NO

THE FOLLOWING TYPE OF TRAINING DUTY IS DESIRED

12. MY PRESENT OCCUPATION WILL WILL NOT INTERFERE WITH MY MOBILIZATION IN THE EVENT OF A NATIONAL EMERGENCY

13. NAVY FLIGHT EXPERIENCE (TOTAL - See instructions)

TIME SPENT	VF		VSB		VTR		VDS		VCO		VW		VW		VW		OTHER	
	VF	VSB	VTR	VDS	VCO	VW	VW	VW	VW	VW	VW	VW	VW	VW	VW	VW	VW	VW
1 TO 3 MONTHS																		
3 TO 12 MONTHS																		
MORE THAN 12 MONTHS																		
NUMBER OF HOURS																		
TOTAL NUMBER OF NAVY FLIGHT HOURS TO DATE																		
COMMERCIAL AND CIVILIAN FLIGHT EXPERIENCE																		
SINGLE ENGINE (Lead)																		
MULTI-ENGINE (Lead)																		

14. GENERAL REMARKS (Include information concerning any of the following which would be of interest in view of National Emergency)

BUREAU OF NAVAL PERSONNEL

ANNUAL QUALIFICATIONS QUESTIONNAIRE

OFFICERS ON INACTIVE DUTY

NAVPERS-318 (REV. 1-45)

To be submitted by all officers on inactive duty.

COMPLY WITH INSTRUCTIONS

REPORT PERIOD

1. NAME (Last) (First) (Middle) RANK AND CLASSIFICATION FILE NO. DES.

2. PRESENT ADDRESS (Street and No.) (City) (State) (Name) (Zip) (Check one) NAVAL DISTRICT (Check one) NO. OF DEPENDENTS

3. BRANCH (Check one) REGULARIZED USNR VOLUNTEER USNR USNR (Flow Control) USNR (Merchant Marine) RETIRED USNR DATE OF LAST PHYSICAL (If not a Citizen)

LIST ONLY CHANGES SINCE LAST REPORT FOR FOLLOWING ITEMS

4. IS AVIATOR. Indicate number of flight hours last year for each type aircraft. (F4U, Y4M, P4U, etc.) <i>List most common type first.</i>	PERIOD	FIRST SIX MONTHS			SECOND SIX MONTHS			TOTAL HRS.
		TYPE OF AIRCRAFT						

5. FOREIGN LANGUAGE ABILITY	NO. OF HOURS	TRANSLATE			INTERPRET			6. FOREIGN RESIDENCE AND TRAVEL	WEEKS
		GOOD	FAIR	POOR	GOOD	FAIR	POOR		
None									

7. HOW WAS LANGUAGE ABILITY ACQUIRED? 8. CIVILIAN EDUCATION (College or University) FROM TO DEGREE DATE MAJOR SUBJECT

University of Missouri 1935 1 B.S. Soil Chemistry

9. TRADE OR TECHNICAL SCHOOL ATTENDED COURSE HOURS OF INSTRUCTION

10. NAVAL CORRESPONDENCE COURSES (Title) COMPLETED IN PROGRESS

None

11. LIST LICENSES, REGISTRATIONS, FELLOWSHIPS, AND BOARD CERTIFICATIONS NOW IN EFFECT DATE OF FIRST LICENSE OR REGISTRATION DATE OF MOST RECENT LICENSE OR REGISTRATION

None

12. CIVILIAN EMPLOYMENT PLACE (City) (State) DUTIES AND RESPONSIBILITIES (Attach additional page if required)

Parsons Kansas Present

NAME OF EMPLOYER: Spencer Chemical Company

KIND OF BUSINESS: Chemicals

NO. AND CLASS OF EMPLOYEES YOU SUPERVISE: 140 Plant Operators

EXACT TITLE OF YOUR POSITION: Senior

ANNUAL SALARY (Optional): BELOW \$2000 \$2000 TO \$3000 \$3000 TO \$4000 ABOVE \$4000

13. PRACTISE THIS SPECIALTY PERCENT OF SPECIALTY PRACTISED

14. If member of an Organization of the Naval Reserve, give title of the organization and duties therein

15. IN VIEW OF YOUR TOTAL NAVAL AND CIVILIAN EXPERIENCE, FOR WHAT ASSIGNMENT DO YOU CONSIDER YOU ARE BEST SUITED IN THE EVENT OF A NATIONAL MOBILIZATION?

A FLOAT:

A SHORE:

16. LIST ANY PHYSICAL DISQUALIFICATIONS OR LIMITATIONS WHICH YOU KNOW YOU HAVE ARE YOU PHYSICALLY QUALIFIED FOR SEA DUTY?

YES NO DON'T KNOW

17. GENERAL REMARKS: (List Residences, Hospital and Teaching appointments, membership in professional and scientific societies, lecturing, publications, papers, inventions, special skills and hobbies, business and professional activities, and other information which might aid in evaluating your qualifications.)

III

SOCIAL SECURITY ADMINISTRATION

Baltimore, Maryland 21235

CERTIFICATION OF EXTRACT FROM RECORDS

Pursuant to the provisions of Title 42, United States Code, Section 904, and the authority vested in me by 42 United States Code 902. I hereby certify that I have legal custody of certain records, documents, and other information established and maintained by the Social Security Administration, pursuant to Title 42, United States Code, Section 405, and that the annexed is a true extract from such records in my custody as aforesaid.

I further certify that all signatures of Social Security Administration annexed document(s) are genuine and made to the signers' official capacity.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the Social Security Administration to be affixed this 31ST day of May, 2002.

Steven Donnell

Steven Donnell
Division Director
Division of Earnings Record Operations
Office of Central Operations

JA-1826

VERSION 1984.002 * * *

ITEMIZED STATEMENT OF EARNINGS

FOR

* * *

JOB:

FROM: SOCIAL SECURITY ADMINISTRATION
OFFICE OF CENTRAL OPERATIONS
300 N. GREENE STREET
BALTIMORE, MARYLAND 21290-0300

NUMBER HOLDER NAME:

3

AVE

PERIOD REQUESTED JANUARY 1945 THRU DECEMBER

YEAR JAN - MARCH APRIL - JUNE JULY - SEPT OCT - DEC TOTAL

EMPLOYER NUMBER:
MILITARY CHEMICAL WORKS INC
31. SO BROADWAY
PITTSBURG KS 00000-0000

1945				147.24	\$	147.24
1946	650.50	661.26	635.73	767.73	\$	2,715.22
1947	911.92	802.40	872.55	413.13	\$	3,000.00
1948	975.00	975.00	975.00	75.00	\$	3,000.00
1949	1,020.00	1,020.00	960.00		\$	3,000.00
1950	1,050.00	1,050.00	900.00		\$	3,000.00
1951	1,140.00	1,140.00	1,260.00	60.00	\$	3,600.00
1952	1,275.00	1,305.00	1,020.00		\$	3,600.00
1953	1,395.00	1,440.00	765.00		\$	3,600.00

EMPLOYER NUMBER:
CONFIDENTIAL REPORTS INC
1270 SIXTH AVE
NEW YORK NY 00000-0000

1950			35.00	59.00	\$	94.00
------	--	--	-------	-------	----	-------

EMPLOYER NUMBER:
SPENCER CHEMICAL CO
610 DWIGHT BLDG
KANSAS CITY MO 64105-0000

1954	1,685.00	1,725.00	190.00		\$	3,600.00
------	----------	----------	--------	--	----	----------

Social Security Administration
Retirement, Survivors and Disability Insurance
Earnings Record Information

From: Office of Central Operations
300 North Greene Street, Baltimore, Maryland 21201

We are sending you the statement of earnings you requested for the number holder shown below.

Number Holder's Name:	Social Security Number:
-----------------------	-------------------------

If we recently received earnings information, it may not yet be shown on this statement.

Please read the back of this letter for more information about Social Security records.

If you have any questions, you should call, write or visit any Social Security office. If you visit, please bring this letter. It will help us answer questions.

Enclosures:
Original Lett.
Earnings State.

Control Number:
Remittance CTL Number: 200204040432

INFORMATION ABOUT SOCIAL SECURITY RECORDS

- Our records show the amount of earnings reported, not the amount of Social Security taxes which were paid.
- Wages were first covered under Social Security in 1937. Therefore, 1937 is the first year for which earnings may be shown on our records. Employers were required to report earnings semi-annually in 1937, and on a quarterly basis for the years from 1938 through 1977. Beginning with 1978, employers are required to report earnings annually.
- Our records do not show the exact dates of employment (month and day) because we don't need this information to figure Social Security benefits. Employers do not give us this information.
- Our records may not show earnings from last year because it takes some time to process earnings reports from employers.
- Each year, there is a maximum amount of earnings which are subject to Social Security taxes and are used to compute benefits. If a person earns more than this maximum amount, the earnings statement will usually show the maximum rather than the total earnings.

<u>Years</u>	<u>Maximum Yearly Earnings Taxed for Social Security</u>	<u>Years</u>	<u>Maximum Yearly Earnings Taxed for Social Security</u>
1937-50	\$ 3,000	1979	\$22,900
1951-54	\$ 3,600	1980	\$25,900
1955-58	\$ 4,200	1981	\$29,700
1959-65	\$ 4,800	1982	\$32,400
1966-67	\$ 6,600	1983	\$35,700
1968-71	\$ 7,800	1984	\$37,800
1972	\$ 9,000	1985	\$39,600
1973	\$10,800	1986	\$42,000
1974	\$13,200	1987	\$43,800
1975	\$14,100	1988	\$45,000
1976	\$15,300	1989	\$48,000
1977	\$16,500	1990	\$51,300
1978	\$17,700	1991	\$53,400*

- Beginning in 1951, self-employed persons could also receive Social Security credit for their work. The maximum amounts of self-employment earnings that are subject to Social Security taxes and are used to compute benefits are the same as those shown above.

[] Please read the enclosed pamphlet(s) for more information.

- In 1991, the maximum yearly earnings taxed for Hospital Insurance is \$125,000.

Instructions for Completing Special Exposure
Cohort Petition — Form B

OMB Number: 0920-0639

Expires: 05/31/2007

Page 7 of 10

E.5 — Is the petition based on one or more unmonitored, unrecorded, or inadequately monitored or recorded exposure incidents?

If the petition is based on one or more radiation exposure incidents for which exposures were unmonitored (unplanned events that resulted in radiation exposures, versus routine operations which may also result in radiation exposures), provide the date when the incident(s) began and ended and describe the incident(s) in as much detail as possible. **YES, SEE DOCUMENTS**

ATTACHED
For example, you might describe the source of the radiation exposure or emission, its cause, the response to the incident, and the potential number of employees involved. You should report everything you know about the incident. NIOSH will use this information to identify the event and obtain additional information from the Department of Energy and other sources. If NIOSH finds it cannot confirm the occurrence of the event through information from the Department of Energy or any other sources, it will require that you obtain and provide medical evidence relating to the incident and/or one or more affidavits providing information about the incident, as provided under section 83.9(c)(3) of the Special Exposure Cohort Rule (42 CFR Part 83).

Go to Part F.

Part F

Basis for Proposing that Records and Information are Inadequate for Individual Dose Reconstructions

Complete at least one of the entries under this part. You are not required to complete more than one entry, although you should complete more than one entry when such additional information is available to you. This additional information may assist HHS in evaluating your petition.

F.1: Complete this entry if you are petitioning on the basis that certain radiation exposures and doses to the class were not monitored. By completing this entry, you do not need to establish (through documentation or affidavit) that there was no monitoring whatsoever, of any radiation exposures and doses incurred by the class of employees. You need only establish that some types of radiation exposures and doses incurred by the class were not monitored, or that during certain periods of time, certain operational procedures, or certain exposure incidents, the exposures and doses incurred by the class were not monitored.

For example, if the employees in the class were instructed to remove their radiation dosimetry badges for certain operations involving radiation exposures, this might qualify as unmonitored exposures, despite the fact that the employees might have routinely worn their radiation dosimetry badges during most operations. Similarly, if there was a period of time during an operation when there was no monitoring of internal doses, this might qualify as unmonitored exposures. **YES, SEE ATTACHED DOCUMENTS**

E.1: DOE - NO EPIDEMIOLOGICAL RECORDS FOUND - 10/23/01 (SEE ORIGINAL SPECIAL ENERGY COHORT APPLICATION)

E.5 SEE CORRESPONDENCE DATED 5/14/02 MENTIONING AIR SAMPLINGS - NO DOSIMETER RECORDING SEE ORIGINAL SEC APPLICATION

**Employment History for Claim Under
Energy Employees Occupational Illness
Compensation Program Act**

**U.S. Department of Labor
Employment Standards Administration
Office of Workers Compensation Programs**



Disclosure of social security number is voluntary. Failure to disclose this number will not result in the denial of any right, benefit or privilege to which you may be entitled. **DO NOT FILL IN SHADED AREAS**

OMB No.:
Expires:

EMPLOYEE INFORMATION

L

Form:

Last First M.I.

In the following section, list the complete employment history of the employee named above in chronological order. Begin with the most recent period of employment. If you require additional space to explain or clarify any point, attach a supplemental statement to this form.

EMPLOYER 1

Dates of Employment

AFTER WWII, 1
Start Date

DATE OF DEATH
End Date

Employer (Name/Address/Location where work was performed)

SPENCER CHEMICAL COMPANY/JAYHAWK PLANT
CURRENT BUSINESS NAME: ALCO OR JAYHAWK FINE CHEMICALS
P.O. BOX 247, GALENA, KS. 66739 (620) 783-1321

Position Title & Description of Work Performed

CHEMIST

Describe all factor(s) believed to have contributed to the development of the claimed illness. (N/A for none)

CHEMICALS
URANIUM EXPOSURE

Was a dosimetry badge worn while employed?

NOT KNOWN

YES

Dosimetry Badge Number

NO

EMPLOYER 2

Dates of Employment

1 1 ?
Start Date

DATE OF DEATH
End Date

Employer (Name/Address/Location where work was performed)

WORKED FOR SPENCER PLANTS
AT GALENA, KS., VICKSBURG, MISS., LANSING, ILLINOIS, HENDERSON, KY.
& LAST PLANT 'JAY HAWK' - GALENA, KS.

Position Title & Description of Work Performed

-MANY TITLE CHANGES OVER YEARS

BASICALLY CHEMIST

Describe all factor(s) believed to have contributed to the development of the claimed illness. (N/A for none)

CHEMICALS
URANIUM EXPOSURE

Was a dosimetry badge worn while employed?

YES

Dosimetry Badge Number

NOT KNOWN

NO

SPENCER CHEMICAL COMPANY

1. DOE RECORDS / LICENSING APPLICATIONS
2. FACILITY LIST / SPENCER CHEMICAL CO.
3. CORRESPONDENCE TO NRC
APPEAL LTR.
4. CORRESPONDENCE PUBLIC HEALTH SERVICE
5. CORRESPONDENCE DHHS
CDC
6. CORRESPONDENCE FROM DHHS
7. CORRESPONDENCE TO OFFICE
EPIDEMIOLOGICAL STUDIES
8. CORRESPONDENCES DHHS

UNMONITORED, UNRECORDED
INADEQUATELY MONITORED
OR RECORDED EXPOSURE
INCIDENTS.

RADIATION EXPOSURES + DOSES
WERE NOT MONITORED -

DOCUMENTS

I: DOE - NO EPIDEMIOLOGICAL
RECORDS FOUND

II CORRES OFFICE OF EPIDEMIOLOGICAL
STUDIES

III DHHS - REQUEST

IV DHHS - CDC, DCP & PSC - NO RECORDS

V DHHS CORRESPONDENCE

VI DOE - NO RECORDS, NO DOSIMETRY,
NO PERSONNEL RECORDS

VII FUSRAP DATABASE - NO INFORMATION

VIII DHHS - NO RECORDS

IX DHHS REQUEST

X PHS REQUEST

XI - SCC 5/14/62 - INCIDENTS
NO DOSIMETRY

AIRBORNE CONCENTRATION
NORMAL URANIUM EXCESSIVE

CONCENTRATION IN EFFLUENTS TO
UNRESTRICTED AREAS



Department of Energy
Washington, DC 20585

OCT 23 2001

Your letter of August 16, 2001, to Heather Stockwell, was referred to the Office of Worker Advocacy for a response. You requested epidemiological studies performed at the Spencer Chemical Company and radiological monitoring reports on your late father. You requested this information in connection with the claim you filed with the Department of Labor under the Energy Employees Occupational Illness Compensation Program.

My staff has performed extensive records research on all of the facilities covered under this program, including the Spencer Chemical/Jayhawk Plant. They have found no epidemiological studies on the facility. For your information, I am enclosing the contents of our files on the Spencer Chemical Company, in the hope that the documents may be of some help to you in connection with your claim. As an Atomic Weapons Employer performing work under contract to the Department of Energy, Spencer Chemical Company was responsible for maintaining its own personnel and exposure records. The Department of Energy did not receive or maintain any copies of such records.

I hope this is helpful.

Sincerely,

A handwritten signature in cursive script that reads "Steven V. Cary".

Steven V. Cary
Acting Director
Office of Worker Advocacy
Office of Environment, Safety and Health

Enclosures



August 16, 2001

Office of Epidemiological Studies
Heather G. Stockwell, Director
EH-62, Room 4107, 270CC
Germantown, MD 20874

Re: Epidemiological Studies pertaining to Spencer Chemical Company/Jayhawk Plant from the 1950's through 1960's.
Specific reference

F
C
Dear Ms. Stockwell:

Under the Freedom of Information Act, I am writing to request epidemiological studies performed at Spencer Chemical Company in the late 50's and through the 60's. specifically any monitoring devices utilized on _____, who worked in a laboratory in the Spencer facility. My _____ and I am pursuing a claim (EEOIPA) claim for death benefits.

The Department of Labor is asking for this material to be provided by the Department of Energy and says this "that the Department of Energy and Department of Justice is responsible for notifying claimants and submitting evidence necessary for the Department of Labor's adjudication of claims under EEOICPA."

"I declare under penalty of perjury that the foregoing is true and correct. Executed on 8/15/2001.

Thanking you in advance for this information as I need this to file a claim under EEOICPA as soon as possible.



Public Health Service
Freedom of Information Office
Parklawn Building, Room 17-A-46
5600 Fishers Lane
Rockville, MD 20857
PH: 301-443-5252
Fax: 301-443-0925

September 28, 200

Dear

This acknowledges your Freedom of Information Act request received in this office on 9/27/01. We have asked the appropriate action office(s) to send the requested records to us for review.

Pursuant to Departmental Regulations, 45 CFR Part 5, Subpart D, charges will be made if applicable.

You have been classified in the following manner:

- Category I - Commercial Use Requester
- Category III - Other Requestors

If you have been classified as a Category I requester, you will be charged for duplication, editing, search time, and review. If you have been classified as a Category III requester, we will waive fees for the first 100 pages of duplication and the first two hours of search time. You will, however, be responsible for additional search and duplication charges.

Please feel free to contact this office regarding the status of your request. When making an inquiry, please refer to case number PHS-2K1-325.

Sincerely,

PHS Freedom of Information Office



DEPARTMENT OF HEALTH & HUMAN SERVICES

Program Support Center

Public Health Service
Freedom of Information Office
Parklawn Building, Room 17A-46
5600 Fishers Lane
Rockville, Maryland 20857
PH: 301-443-5252
Fax: 301-443-0925

FOIA Case Number:

November 1, 2001

Dear

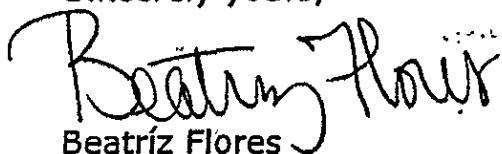
This is in response to your September 24 letter. You requested any and all information pertaining to Your letter has been referred to me because of my responsibilities under the Freedom of Information Act (FOIA).

We asked the Centers for Disease Control and Prevention (CDC), the Division of Commissioned Personnel (DCP), and the Program Support Center (PSC) to query their files for records responsive to your request. No documents were located. Therefore, the Public Health Service (PHS) does not have any records.

While we believe that an adequate search of appropriate files was conducted for the records you requested, you have the right to appeal the agency's determination that no records exist which would be responsive to your request. Should you wish to do so, you must send your appeal, within 30 days from the date of receipt of this letter, to the Deputy Assistant Secretary for Public Affairs/Media, U.S. Department of Health and Human Services, Room 17A-46, 5600 Fishers Lane, Rockville, Maryland, 20857. Please mark both your appeal letter and envelope "FOIA Appeal".

However, it is possible that _____ may have participated in Department of Health and Human Services (DHHS) sponsored research. Therefore, I am enclosing a compilation which contains descriptions of the systems of records maintained by this agency which are required when individuals participate in DHHS sponsored research activities. Should you believe that _____ may have been a participant in any of the described systems, you should address any specific requests for records to the official identified as the System Manager.

Sincerely yours,

A handwritten signature in cursive script that reads "Beatriz Flores".

Beatriz Flores
Freedom of Information Technician
Public Health Service

Enclosures



National Institute for Occupational
Safety and Health
Robert A. Taft Laboratories
4676 Columbia Parkway
Cincinnati, OH 45226-1998

October 5, 2001

Dear

I would like to take the opportunity to thank you for expressing an interest in the activities of the National Institute for Occupational Safety and Health (NIOSH) in conjunction with the Energy Employees Occupational Illness Compensation Program Act (EEOICPA).

The NIOSH Office of Compensation Analysis and Support (OCAS) would like to inform you that on Friday, October 5, 2001, our two rules, "Methods for Radiation Dose Reconstruction" and "Guidelines for Determining the Probability of Causation," were published in the Federal Register as an interim final rule and a notice of proposed rulemaking, respectively. At this time, we have begun seeking public comment as described in these two rules.

If you wish to obtain a copy of one or both of the above rules, they can be obtained in one of the following ways:

- Directly through the Federal Register publication or by visiting their Web site (http://www.access.gpo.gov/su_docs/aces/aces140.html);
- By visiting the NIOSH Web site (<http://www.cdc.gov/niosh/homepage.html>); or
- By contacting the NIOSH Docket Office at (513) 533-8450 or by email at niocindocket@cdc.gov.

PRINTED COPIES @ 1-800-356-4674

Once again, I would like to invite you to provide comments on the above mentioned items during their public comment period as described in the rules. Please provide your written comments as indicated in the rules to the NIOSH Docket Office.

If you have any additional questions or comments regarding your public comments, please feel free to contact OCAS at (513) 841-4498 or by email at ocas@cdc.gov.

Sincerely,

Larry J. Elliott
Director
NIOSH Office of Compensation
Analysis and Support

Enclosure



Department of Energy
Germantown, MD 20874-1290

MAR 25 2002

Dear *

This is in response to your November 16, 2001 inquiry in which you request any information that the Department of Energy Office of Worker Advocacy may have regarding the personnel or dosimetry records of your [redacted] in regards to [redacted] employment at the Spencer Chemical. Our office has no information on [redacted] we do not have any personnel records for Spencer Chemical. We do not have any dosimetry records for Spencer Chemical.

I have enclosed a copy of all the material in our files on Spencer Chemical. The National Institute of Occupational Safety and Health already has been provided with all this material.

We hope this information answers your questions.

Sincerely

A handwritten signature in cursive script that reads "Karoline Anders".

Karoline Anders
Office of Worker Advocacy



HOME

Home Calendar Database Documents

Database Report

Site: MO.0-01 -- SPENCER CHEMICAL CO.

011

Note: The information contained within the FUSRAP Considered Sites Database must be viewed as predecisional and, as such, cannot be released to the public at this time. Number of Records Returned: 1

Current Dataset Date: 1/16/00

Data Type	Reference	Source
Site: MO.0-01 -- SPENCER CHEMICAL CO.		
Alternate Site Name(s) (1)	INFORMATION NOT FOUND	2
Site Location (1)	SEE DISCUSSION DOCUMENT 1475	View Source
Evaluation Year (1)	INFORMATION NOT FOUND	2
Site Disposition (1)	INFORMATION NOT FOUND	2
Type of Site Disposition Document (1)	INFORMATION NOT FOUND	2
Elimination Basis (1)	INFORMATION NOT FOUND	2
Site Operations (1)	SEE DISCUSSION DOCUMENT 1475	View Source
Years of MED/AEC Involvement (1)	INFORMATION NOT FOUND	2
Radioactive Materials Handled Under AEC/MED Contract (1)	INFORMATION NOT FOUND	2
Type of Radioactive Materials Handled Under AEC/MED Contract (1)	INFORMATION NOT FOUND	2
Other Radioactive Materials Handled (1)	SEE DISCUSSION DOCUMENT 1475	View Source
Type of Other Radioactive Materials Handled (1)	SEE DISCUSSION DOCUMENT 1475	View Source
Survey Conducted (1)	INFORMATION NOT FOUND	2
Type of Survey Conducted (1)		
DOE Cleanup Action (1)		
Non-DOE Cleanup Action (1)		
Current Site Owner (1)	INFORMATION NOT FOUND	2
Prior Site Owner(s) (1)	INFORMATION NOT FOUND	2

[Return to top of report](#)

[Return to Query Page](#)

Last Updated 12/15/00 (jac)

REPOSITORY GM FILE RM

COLLECTION FUSRAP

BOX No. 110
 OLDER SPENCER INVENT.



SEP 24 2001

This letter is in response to your Freedom of Information Act (FOIA) request of August 16.

A search of our records failed to reveal any records pertaining to

While we believe that an adequate search of appropriate files was conducted for the records requested, you have the right to appeal this determination that no records exist which would be responsive to this request. Should you wish to do so, send your appeal within 30 days from the date you receive this letter, to the Deputy Assistant Secretary for Public Affairs (Media), U.S. Department of Health and Human Services Room 17A-46, 5600 Fishers Lane, Rockville, Maryland 20857. Please mark both the letter and envelope "FOIA Appeal."

We understand that a separate response will be coming from the Office of Compensation, Analysis and Support (OCAS) of the National Institute for Occupational Safety and Health (NIOSH).

The fee is waived in this instance because it falls below our billing threshold.

Sincerely yours,

Cindy Hooper

for Lynn Armstrong
CDC/ATSDR FOIA Officer
Office of Communication
(404) 639-7270



Department of Health and Human Services
Office of the Secretary
Washington, DC 20201

Dear Requester:

This will acknowledge receipt of your Freedom of Information Act (FOIA) request of 8-16-01
Because your request is for records maintained by one of the Department's major operating
components, * PHS, it has been forwarded to them for direct response to
you. While your request will be processed as expeditiously as possible, actual processing time
will depend on the complexity of your request and whether it involves sensitive or voluminous
records, extensive search, and/or consultation with other HHS components or other executive
branch agencies. Please recognize that there may be a charge for these records and, in some cases,
the charges may be substantial. * Public Health Service

The phone number for the FOIA office
now responsible for processing your request is _____

Their address is: Room 17-A-46 Parklawn Building
5600 Fishers Lane
Rockville, MD. 20857



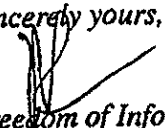
DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service
Centers for Disease Control and Prevention

8-23-01

Dear Requester,

Your Freedom of Information Act request has been received by the Centers for Disease
Control and Prevention (CDC)/Agency for Toxic Substances & Disease Registry (ATSDR)
and has been sent to the area(s) which may have pertinent records. Program officials will
initiate a search and a response will be sent to you as quickly as possible.

Sincerely yours,


Freedom of Information Act Office
Office of Communications
(404) 639-7270

01-0900
NOTE: There may be a charge for
processing your request.

X
September 24, 2001

Public Health Service *
Freedom of Information Office
Parklawn Building, Room 17-A-46
5600 Fishers Lane
Rockville, Maryland 20857

Dear Freedom of Information Office,

Reference: [redacted]

Dear Mr. Freedom of Information Office,

I received your reply to my request of August 16, 2001 and you informed me that you had sent my request to the Centers for Disease Control. I'm writing today to request personnel records on my deceased in 1966. [redacted] is deceased and I am the eldest child.

I am the individual to whom the record/information applies or that person's parent (if a minor or legal guardian, or a person who is authorized to sign on behalf of the individual to whom the record/information applies. I know that I make any representation which I know is false to obtain information from the records, I could be punished by a fine or imprisonment or both.

a)

Relationship (if other than :

Date Signed:

Signature:

Printed Name:

I am thanking you in advance for this information. I have written to Chevron Chemical company at least three times and have been unable to receive a response to my request and I am hoping you can help me. I need this information to file an EEOICPA claim.



Docket No. 70-146
70-1478

Spencer Chemical Company

DWIGHT BUILDING

Kansas City 5, Missouri

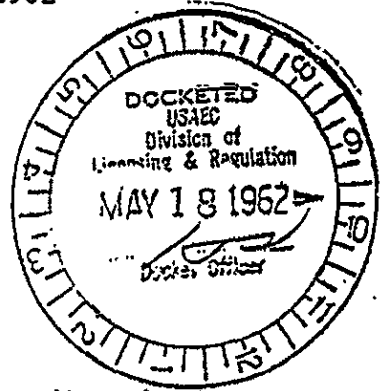
L&R FILE

May 14, 1962

U. S. Atomic Energy Commission
Division of Licensing and Regulation
Washington 25, D. C.

Attention: Mr. Eber R. Price

Gentlemen:



This is in response to your letter of 17 April 1962 regarding the inspection conducted at our Jayhawk Works at Pittsburg, Kansas on May 2-5, 1961 under Source Material License C-4352 and Special Nuclear Material Licenses No. SNM-154 and SNM-329.

Replying to your items as listed in your letter, we submit the following information for your consideration:

I. Time-occupancy studies have been made in the area where high air-borne dust samples were observed.

A. Incidents Involving Thorium

Six incidents have been noted involving thorium, natural isotopic assay. The counts of the air samples in these six samples are as follows:

Microcuries
per ml of Air

- 3 x 10⁻¹⁰
- 4 x 10⁻¹⁰
- 2 x 10⁻¹⁰
- 2 x 10⁻¹⁰
- 2 x 10⁻¹⁰
- 5 x 10⁻¹¹



In all cases, these were 30-minute air samples taken at a position between the man and the hooded operation where the material was being utilized. The air samples therefore represent the absolute maximum that the man could have achieved. Time studies on the operation have indicated that the man is in the operating

position less than 25 minutes during an 8-hour normal shift of operation. During the rest of the time the man would be in other parts of the room or hallways or the building where the air has consistently been 10^{-12} microcuries per ml or less. Therefore, the overall daily exposure would be less than the limits of Part 20.

B. Normal Uranium

Seven instances were observed where the air-borne concentration of normal uranium was in excess of the Part 20 limit. These were as follows:

Microcuries
per ml of Air

1.3×10^{-10}

9×10^{-11}

1×10^{-10}

1×10^{-10}

2×10^{-10}

1×10^{-10}

9×10^{-11}

These instances all occurred at the fusion operation, samples being taken for a 30-minute period at a position approximately head high between the man and the hood where the material was being utilized. Again it was determined that the man was in this operating position less than 25 minutes during an 8-hour shift. At other times he would be in air-borne concentrations ranging from 10^{-12} to 10^{-14} , so that his overall daily exposure was less than prescribed limits.

C. 93% Enriched Uranium

Instances involving 93% enriched uranium have revolved around two pieces of equipment. One was a dry sample splitter where the samples had to be taken between the machine and the man. These were as follows:

TABLE II

Assignment of Sampling Sequence by Area and Number

<u>Zone No. 1</u> <u>Sample Point</u>	<u>Air Samples</u>	<u>Smear Samples</u>
B6 - DIR office	90	39
K4 - Room 2 office	61	43
K-8 - G.S. office	33	79
A12)	67	62
A13)	11	75
A14)	38	71
B11))))) Lunch Room	82	91
B14)	52	68
C11)	09	98
C14)	54	74
D11)	47	34
D12)	56	42
D13)	95	06
D14)	57	64
G8 - Center hall office	16	13
C37)	77	89
D38) Dirty Change area	08	88
E37)	03	99
A42))	04	94
E42)) Center Hall storage	48	70
J27 - Met. lab	17	01
J32)	45	25
J34) Clean Change area	22	20
L32)	27	96
K39 - Men's Room	28	93
K42 - Center hallway south	12	23
Total - 26		

Instructions for Completing Special Exposure
Cohort Petition — Form B

OMB Number: 0920-0639

Expires: 05/31/2007

Page 8 of 10

F.2: Complete this entry if you are petitioning on the basis that radiation monitoring records for members of the proposed class have been lost, falsified, or destroyed. Documentation or affidavits demonstrating that monitoring records are missing for a class of workers might be sufficient to indicate that the records have been lost or destroyed. Documentation or affidavits demonstrating differences between exposures or monitoring results and the current official records of these exposures or monitoring results might be sufficient to indicate that records might have been falsified. You should note, however, that records can be changed to reflect corrections to faulty monitoring results. *YES, SEE DOCUMENTATION UNDER F.1*

Also complete this entry if there is no information regarding monitoring, source, source term, or process from the site where the members of the proposed class worked.

By completing this entry, you do not need to establish (through documentation or affidavit) that there are no monitoring records whatsoever, for personal or area monitoring that was conducted for the class of employees, or that all the relevant records have been falsified. You need only indicate that the records relating to some types of radiation exposures and doses incurred by the class, or relating to certain periods of time, certain operations, or certain exposure incidents involving the class, have been lost, falsified, or destroyed, or that there is no such information. *SEE F.1*

F.3: Complete this entry if you are petitioning on the basis of an unpublished expert report addressing record limitations for the class of employees proposed in your petition. You are not required to use this approach to support your petition. Most petitioners are unlikely to be in a position to employ an expert to evaluate the limitations of DOE records on exposures to a particular class of employees. However, this is an option that might be used by some petitioners, particularly organizations. If you are considering this option, we suggest the expert you employ contact NIOSH before completing such an evaluation. NIOSH will ensure that the expert is aware of the availability of relevant information concerning the procedures by which NIOSH estimates radiation doses for cancer claims under the Act, including the HHS regulations on dose reconstruction methods (42 CFR Part 82) and related implementation guidelines. *WILL EMPLOY EXPERT AFTER DOSE RECONSTRUCTION*

F.4: Complete this entry if you are petitioning on the basis of a scientific or technical report that was published in a peer-reviewed journal or issued by a government agency of the Executive Branch of Government, or the General Accounting Office, the Nuclear Regulatory Commission, or the Defense Nuclear Facilities Safety Board. Federal agencies most likely to have funded or to fund such studies are DOE and NIOSH. It is possible that state environmental protection agencies might have funded such studies related to AWE facilities. Such reports are likely to have been issued either as scientific or technical reports available directly by request from government agencies or as research reports published in scientific journals.

Go to Part G

F2 - NIOSH HAS NO RECORDS OF DOSIMETRY AT SPENCER, WHICH NECESSITATES A TECHNICAL BASIS DOCUMENT ON-SITE. I HAVE WRITTEN TO COMPANY + EVERY FEDERAL AGENCY FOR DOSIMETRY RECORDS + THEY ARE NOT AVAILABLE. DOSIMETRY RECORDS WERE NOT GIVEN TO EMPLOYEE. DOE - NO RECORDS. DHHS - NO RECORDS. CDC, NCP, PCC - NO RECORDS. CHEURON - NO RECORDS

**Instructions for Completing Special Exposure
 Cohort Petition — Form B**

OMB Number: 0920-0639

Expires: 05/31/2007
 Page 9 of 10

Part G
Signature of Person(s) Submitting this Petition

Each petitioner should sign and date the petition as indicated. A maximum of three petitioners may sign the petition.

Summary of Form Requirements

To ensure that you have completed the required sections of the petition, please refer to the table below:

	Part A	Part B	Part C	Part D	Part E	Part F	Part G
Employee			X		X	X	X
Survivor		COMPLETED	X COMPLETED	COMPLETED	X COMPLETED	X COMPLETED	X COMPLETED
Authorized Representative	X	X (if applicable)	X		X	X	X
Labor				X	X	X	X

Appendix — Petitioner 2

If there is an additional petitioner (not a labor organization), he or she must complete the Appendix — Petitioner 2 and sign Section G of the original petition. Please refer back to pages 2 — 5 of this instruction set for more information on completing the appendix. *UNDER SEPARATE COVER*

Appendix — Petitioner 3

If there is a third petitioner (not a labor organization), he or she must complete the Appendix — Petitioner 3 and sign Section G of the original petition. Please refer back to pages 2 — 5 of this instruction set for more information on completing the appendix. *UNDER SEPARATE COVER*

Appendix — Continuation Page

The Continuation Page is provided for you if you need more space to provide additional information. Please photocopy as needed, and attach to the petition.

*WILL BE
 BRING ADDITIONAL PETITIONER
 DOCUMENTS UNDER SEPARATE
 COVER*

Public Burden Statement

Public reporting burden for this collection of information is estimated to average 300 minutes per response, including time for reviewing instructions, gathering the information needed, and completing the form. If you have any comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, send them to CDC Reports Clearance Officer, 1600 Clifton Road, MS-E-11, Atlanta GA, 30333; ATTN:PRA 0920-XXXX. Do not send the completed petition form to this address. Completed petitions are to be submitted to NIOSH at the address provided in these instructions. Persons are not required to respond to the information collected on this form unless it displays a currently valid OMB number.

Privacy Act Advisement

In accordance with the Privacy Act of 1974, as amended (5 U.S.C. § 552a), you are hereby notified of the following:

The Energy Employees Occupational Illness Compensation Program Act (42 U.S.C. §§ 7384-7385) (EEOICPA) authorizes the President to designate additional classes of employees to be included in the Special Exposure Cohort (SEC). EEOICPA authorizes HHS to implement its responsibilities with the assistance of the National Institute for Occupational Safety (NIOSH), an Institute of the Centers for Disease Control and Prevention. Information obtained by NIOSH in connection with petitions for including additional classes of employees in the SEC will be used to evaluate the petition and report findings to the Advisory Board on Radiation and Worker Health and HHS.

Records containing identifiable information become part of an existing NIOSH system of records under the Privacy Act, 09-20-147 "Occupational Health Epidemiological Studies and EEOICPA Program Records. HHS/CDC/NIOSH." These records are treated in a confidential manner, unless otherwise compelled by law. Disclosures that NIOSH may need to make for the processing of your petition or other purposes are listed below.

NIOSH may need to disclose personal identifying information to: (a) the Department of Energy, other federal agencies, other government or private entities and to private sector employers to permit these entities to retrieve records required by NIOSH; (b) identified witnesses as designated by NIOSH so that these individuals can provide information to assist with the evaluation of SEC petitions; (c) contractors assisting NIOSH; (d) collaborating researchers, under certain limited circumstances to conduct further investigations; (e) Federal, state and local agencies for law enforcement purposes; and (f) a Member of Congress or a Congressional staff member in response to a verified inquiry.

This notice applies to all forms and informational requests that you may receive from NIOSH in connection with the evaluation of an SEC petition.

Use of the NIOSH petition forms (A and B) is voluntary but your provision of information required by these forms is mandatory for the consideration of a petition, as specified under 42 CFR Part 83. Petitions that fail to provide required information may not be considered by HHS.

Special Exposure Cohort Petition — Form B

Use of this form and disclosure of Social Security Number are voluntary. Failure to use this form or disclose this number will not result in the denial of any right, benefit, or privilege to which you may be entitled.

General Instructions on Completing this Form (complete instructions are available in a separate packet):

Except for signatures, please **PRINT** all information clearly and neatly on the form.

Please read each of Parts A — G in this form and complete the parts appropriate to you. If there is more than one petitioner, then each petitioner should complete those sections of parts A — C of the form that apply to them. Additional copies of the first two pages of this form are provided at the end of the form for this purpose. A maximum of three petitioners is allowed.

If you need more space to provide additional information, use the continuation page provided at the end of the form and attach the completed continuation page(s) to Form B.

If you have questions about the use of this form, please call the following NIOSH toll-free phone number and request to speak to someone in the Office of Compensation Analysis and Support about an SEC petition: **1-800-356-4674**.

If you are:	<input type="checkbox"/> A Labor Organization,	Start at D	on Page 3
	<input type="checkbox"/> An Energy Employee (current or former),	Start at C	on Page 2
	<input checked="" type="checkbox"/> A Survivor (of a former Energy Employee). (AWE)	Start at B	on Page 2
	<input type="checkbox"/> A Representative (of a current or former Energy Employee),	Start at A	on Page 1

A Representative Information — Complete Section A if you are authorized by an Employee or Survivor(s) to petition on behalf of a class.

A.1 Are you a contact person for an organization? Yes (Go to A.2) No (Go to A.3)

A.2 Organization Information: DO NOT COMPLETE
Name of Organization _____

Position of Contact Person _____

A.3 Name of Petition Representative:
Mr./Mrs./Ms. First Name Middle Initial Last Name

A.4 Address:
Street Apt # P.O. Box
City State Zip Code

A.5 Telephone Number: () -

A.6 Email Address: _____

A.7 Check the box at left to indicate you have attached to the back of this form written authorization to petition by the survivor(s) or employee(s) indicated in Parts B or C of this form. An authorization form for this purpose is provided.

If you are representing a Survivor, go to Part B.

Yes, go to Part C.

Name or Social Security Number of First Petitioner _____

Special Exposure Cohort Petition — Form B

B Survivor Information — Complete Section B if you are a Survivor or representing a Survivor.

B.1 Name of Survivor:

Mr./Mrs./Ms. First Name Middle Initial Last Name

B.2 Social Security Number of Survivor:

B.3 Address of Survivor:

Street Apt # P.O. Box

City State Zip Code

B.4 Telephone Number of Survivor:

B.5 Email Address of Survivor:

B.6 Relationship to Employee:

nt

Go to Part C

C Employee Information — Complete Section C UNLESS you are a labor organization.

C.1 Name of Employee:

Middle Initial Last Name

C.2 Former Name of Employee (e.g., maiden name/legal name change/other):

SAME AS ABOVE
Mr./Mrs./Ms. First Name Middle Initial Last Name

C.3 Social Security Number of Employee:

C.4 Address of Employee (if living):

DECEASED
Street Apt # P.O. Box

City State Zip Code

C.5 Telephone Number of Employee: DECEASED

C.6 Email Address of Employee: DECEASED

C.7 Employment Information Related to Petition:

C.7a Employee Number (if known): NOT KNOWN

C.7b Dates of Employment: Start 1960 End DEATH

C.7c Employer Name: SPENCER CHEMICAL COMPANY

C.7d Work Site Location: LABORATORIES

C.7e Supervisor's Name:

Special Exposure Cohort Petition — Form B

D Labor Organization Information — Complete Section D ONLY if you are a labor organization.

D.1 Labor Organization Information:

Name of Organization

Position of Contact Person

D.2 Name of Petition Representative:

D.3 Address of Petition Representative:

Street

City State Zip Code

D.4 Telephone Number of Petition Representative:

()

D.5 Email Address of Petition Representative:

D.6 Period during which labor organization represented employees covered by this petition
(please attach documentation):

Start _____ End _____

D.7 Identity of other labor organizations that may represent or have represented this class of
employees (if known):

Go to Part E

Name or Social Security Number of First Petitioner: _____

Special Exposure Cohort Petition — Form B

E Proposed Definition of Employee Class Covered by Petition — Complete Section E.

E.1 Name of DOE or AWE Facility: SPENCER CHEMICAL

E.2 Locations at the Facility relevant to this petition: COMPANY

ALL AT SPENCER

E.3 List job titles and/or job duties of employees included in the class. In addition, you can list by name any individuals other than petitioners identified on this form who you believe should be included in this class:

ATOMIC WEAPONS URANIUM ENRICHMENT FACILITY, LABORATORIES SHARED

E.4 Employment Dates relevant to this petition: WITH AGRICULTURAL

Start EARLY 1960'S End ... '66 * AWE FACILITIES

Start _____ End _____

Start _____ End _____

E.5 Is the petition based on one or more unmonitored, unrecorded, or inadequately monitored or recorded exposure incidents? Yes No

If yes, provide the date(s) of the incident(s) and a complete description (attach additional pages as necessary):

See E-5 DOCUMENTS

Go to Part F

Special Exposure Cohort Petition — Form B

F Basis for Proposing that Records and Information are Inadequate for Individual Dose —
Complete Section F.

Complete at least one of the following entries in this section by checking the appropriate box and providing the required information related to the selection. You are not required to complete more than one entry.

- F.1 I/We have attached either documents or statements provided by affidavit that indicate that radiation exposures and radiation doses potentially incurred by members of the proposed class, that relate to this petition, were not monitored, either through personal monitoring or through area monitoring.

(Attach documents and/or affidavits to the back of the petition form.)

Describe as completely as possible, to the extent it might be unclear, how the attached documentation and/or affidavit(s) indicate that potential radiation exposures were not monitored.

CANT PROVE INDIVIDUALS
WERE MONITORED WITHOUT
INDIVIDUAL DOSIMETRY
READINGS + RECORDS ON EVERY
EMPLOYEE AT SPENCER
CHEMICAL COMPANY.

NO RECORDS - SEE DOCUMENTS
UNDER F-1 + E-5.

- F.2 II/We have attached either documents or statements provided by affidavit that indicate that radiation monitoring records for members of the proposed class have been lost, falsified, or destroyed; or that there is no information regarding monitoring, source, source term, or process from the site where the employees worked.

(Attach documents and/or affidavits to the back of the petition form.)

Describe as completely as possible, to the extent it might be unclear, how the attached documentation and/or affidavit(s) indicate that radiation monitoring records for members of the proposed class have been lost, altered illegally, or destroyed.

CORRESPONDENCES SENT TO ALL FEDERAL
AGENCIES + COMPANIES (PAST + PRESENT)
TO OBTAIN DOSIMETRY RECORDS
REVEALED NO RECORDS SENT TO CLAIMANTS.
NIOSH REPORTS HAS TO DO SITE
ANALYSIS DUE TO LACK OF
DOCUMENTS TO COMPLETE DOSE
RECONSTRUCTION.

Part F is continued on the following page.

SEE DOCUMENTS #1 + E-5

Special Exposure Cohort Petition — Form B

F.3 I/We have attached a report from a health physicist or other individual with expertise in radiation dose reconstruction documenting the limitations of existing DOE or AWE records on radiation exposures at the facility, as relevant to the petition. The report specifies the basis for believing these documented limitations might prevent the completion of dose reconstructions for members of the class under 42 CFR Part 82 and related NIOSH technical implementation guidelines.

WILL HIRE HEALTH PHYSICIST TO REVIEW DOSE RECONSTRUCTION
(Attach report to the back of the petition form.)

F.4 I/We have attached a scientific or technical report, issued by a government agency of the Executive Branch of Government or the General Accounting Office, the Nuclear Regulatory Commission, or the Defense Nuclear Facilities Safety Board, or a journal, that identifies dosimetry and related information that are of monitoring or the destruction or loss of records for estimating employees covered by the petition.

(Attach report to the back of the petition form.)

SEE PAGE BY

ok

9

Go to Part G

G Signature of Person(s) Submitting this Petition — Complete Section G.

All Petitioners

Three persons may sign the petition.

Signature

Date

5/17/2007

Signature

Date

Signature

Date

Notice: Any person who knowingly makes any false statement, misrepresentation, concealment of fact or any other act of fraud to obtain compensation as provided under EEOICPA or who knowingly accepts compensation to which that person is not entitled is subject to civil or administrative remedies as well as felony criminal prosecution and may, under appropriate criminal provisions, be punished by a fine or imprisonment or both. I affirm that the information provided on this form is accurate and true.

Send this form to: SEC Petition
Office of Compensation Analysis and Support
NIOSH
4676 Columbia Parkway, MS-C-47
Cincinnati, OH 45226

If there are additional petitioners, they must complete the Appendix Forms for additional petitioners. The Appendix forms are located at the end of this document.

Special Exposure Cohort Petition — Form B

Public Burden Statement

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NIOSH may need to disclose personal identifying information to: (a) the Department of Energy, other federal agencies, other government or private entities and to private sector employers to permit these entities to retrieve records required by NIOSH; (b) identified witnesses as designated by NIOSH so that these individuals can provide information to assist with the evaluation of SEC petitions; (c) contractors assisting NIOSH; (d) collaborating researchers, under certain limited circumstances to conduct further investigations; (e) Federal, state and local agencies for law enforcement purposes; and (f) a Member of Congress or a Congressional staff member in response to a verified inquiry.

This notice applies to all forms and informational requests that you may receive from NIOSH in connection with the evaluation of an SEC petition.

Use of the NIOSH petition forms (A and B) is voluntary but your provision of information required by these forms is mandatory for the consideration of a petition, as specified under 42 CFR Part 83. Petitions that fail to provide required information may not be considered by HHS.

Name or Social Security Number of First Petitioner: _____

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Special Exposure Cohort Petition
under the Energy Employees Occupational
Illness Compensation Act

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

OMB Number: 0920-0639

Expires: 05/31/2007

Special Exposure Cohort Petition — Form B

Appendix — Continuation Page

Continuation Page — Photocopy and complete as necessary.

ADDITIONAL INFORMATION
FOR REVIEW ATTACHED

Attach to Form B if necessary

Name or Social Security Number of First Petitioner: _____



Spencer Chemical Company

DWIGHT BUILDING

Kansas City 5, Missouri

10-241
File by

June 22, 1959

REPOSITORY

EM FILE RM

COLLECTION

FUSRAP

BOX No.

KS
FOLDER

SPENCER CHEMICAL

Mr. J. C. Delaney
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Mr. Delaney:

We are submitting herewith three copies of our license application covering a facility for handling uranium up to and including 5% enrichment in U-235. The system is designed to process either UF₆ or scrap to an oxide, nitrate or sulfate.

At the present time we are operating a similar but smaller facility under license No. SNM-154, and plan to continue its operation. The plant covered in this application also is to be located at our Jayhawk Works, but is physically located approximately one quarter mile from the smaller plant. Therefore, we are requesting a new license for the facility described in this application. The same laboratory facilities will serve both plants. Our current plant superintendent will have responsibility for both plants.

The new facility is under design and construction and we are planning to have it ready for operation by August 1, 1959. On that date depleted UF₆ will be used as feed for the startup operation. If there is any further information required, please contact us immediately by collect telegram or telephone in order to prevent any undue delay in the consideration of this application.

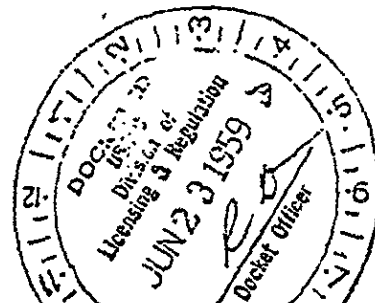
Yours very truly,

Nuclear Fuels Department

Manager

HL:el

Enclosures: ^{Three} ~~Four~~ copies of license application, as noted.



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INTRODUCTION AND APPLICATION

1. This application for a special nuclear material license is submitted by Spencer Chemical Company. The company is incorporated in the state of Missouri and has its principal office in the Dwight Building in Kansas City, Missouri. The principal officers of the Company are:
 - K. A. Spencer - President
 - C. Y. Thomas - General Vice President (Operations)
 - J. P. Miller - General Vice President (Finance)
 - J. E. Culpepper - General Vice President (Marketing)
 - E. V. Friedrich - Vice President, Administration, and Assistant Secretary
 - J. C. Denton - Vice President, Agricultural Chemical Division
 - H. R. Dinges - Vice President, Industrial Chemicals Division
 - F. L. Pyle - Vice President, Plastics Division
 - N. C. Robertson - Vice President, Research and Development Division
 - E. W. Morgan - Treasurer
 - A. Mag - Secretary
2. All these officers have their offices in the Dwight Building except for Mr. Mag whose address is 9 West Tenth Street, Kansas City, Missouri. All are natural born citizens of the United States. The company is not controlled by any alien, foreign corporation or foreign government.
3. This license is requested for the processing of any enrichment of uranium up to and including 5%. The uranium in the form of UF_6 or scrap is to be converted to the oxide. The processing will be done at the Jayhawk Works of the Spencer Chemical Company located between Pittsburg, Kansas, and Joplin, Missouri, with a freight shipping designation of Military, Kansas.
4. The license is requested for ten years.
5. The product of the process normally will be finely divided UO_2 powder. Oxid other than UO_2 may also be produced as finely divided powders. Nitrates and sulphates may also be produced.
6. The uranium will be processed for other licensees. Plant start-up is scheduled for July 20, 1959. The maximum design processing rate is 300 pounds of uranium per day. The actual processing rate will depend upon the exact nature of the feed material and upon customer demand. Inventory of U-235 at the plant will not exceed 1,000 kilograms. Processing losses generally will be held to less

than one percent, but may exceed this for small lots.

7. The Spencer Chemical Company is currently engaged in the manufacture of ammonium nitrate, ammonium nitrate, polyethylene, nylon, urea, methanol and other similar products. Since December 1, 1957, Spencer has been operating a uranium oxide pilot plant (under license No. SNM-154) and has gained much valuable experience in the handling and processing of enriched uranium.

II

QUALIFICATIONS OF PERSONNEL

1. The processing of uranium is the direct responsibility of Harold Lambertus, Manager, Nuclear Fuels. Mr. Lambertus reports directly to H. R. Dinges, Vice President, Industrial Chemicals Division.
2. Mr. Dinges received a B. S. degree in chemistry from College of William and Mary in 1938, where he also served as instructor from 1939 to 1941. He was employed by E. I. duPont de Nemours and Company 1941-42, and Olin Mathieson Chemical Company 1942-47 before joining Spencer Chemical Company in February, 1947. Since February, 1957, Mr. Dinges has been Vice President, Industrial Chemicals Division.
3. Mr. Lambertus received his B. S. and M. S. degrees in Mechanical Engineering from Purdue University and California Institute of Technology respectively. He was employed in 1946 by the American Bearing Corporation where he received a background in engineering, sales and production. He was a vice president at American Bearing prior to his leaving there in 1958, and was responsible for the planning, building and staffing of a nuclear fuel element manufacturing facility. Just prior to joining Spencer Chemical Company as Manager of the Nuclear Fuels Department in April, 1959, Mr. Lambertus served as a consultant to several manufacturers of nuclear fuel elements.
4. The operation of the uranium processing plant is the responsibility of George E. Chenoweth, Plant Superintendent. Mr. Chenoweth received a B. S. degree in chemical engineering from the University of Missouri in 1951. He was employed by Phillips Petroleum Company from 1951 to 1952, and joined Spencer Chemical Company in 1952. He has been responsible for much of the process equipment design for the experimental uranium facilities and has been in charge of the operation of the uranium pilot plant facility since January 1, 1959.
5. Mr. Sinesio A. Zagnoli has been responsible for a major portion of the process design. Mr. Zagnoli received his B. S. in chemical engineering from Purdue University and his M. S. in chemical engineering and Ph. D. in gas technology from Illinois Institute of Technology. He had some three years of industrial experience with petroleum and natural gas industry before his entry into

APPENDIX

I. PROCESS DESCRIPTION

1. This process is designed to produce primarily UO_2 from either UF_6 or scrap. With UF_6 as a starting material, a cylinder is weighed and then vaporized using steam heat. A vacuum pump preceded by a cold trap and a chemical trap permits evacuation and leak testing of the UF_6 piping.
2. The UF_6 is hydrolyzed by admitting the gas into a circulating stream of $Al(NO_3)_3$. Acid may also be added to adjust the acidity. The hydrolysis solution is transferred to rich acid storage.
3. With scrap UO_2 pellets, a weighed quantity of scrap is added to the empty dissolver and HNO_3 circulated through it and a rich acid storage tank until the desired concentration is reached. The dissolver vessel is jacketed to provide for heating or cooling.
4. Since "off-spec" product may be produced from time to time, provision is made for recycling it through the process. This scrap UO_2 powder is dissolved in a kettle using always mass safe batches, and then pumped to the rich acid storage tanks.
5. The rich acid is pumped to a countercurrent pulse extraction column. A solution of tri-butyl-phosphate in kerosene is used as the solvent. The rich organic phase from the extractor overflows to the scrub column. The raffinate flows to the waste storage tanks where it is sampled. From here it is either drained to the sewer or recycled to the system depending on the uranium concentration.
6. In the scrub column the rich organic is contacted with water. The water is recycled to the extraction column and the rich organic flows to the stripper where the uranium is stripped from it with water. The stripped organic phase overflows to a system which continuously cleans the solvent for reuse. The rich aqueous phase is fed to an evaporator to concentrate it and then precipitated with ammonia.
7. The ammonium diuranate precipitate is reduced to UO_2 in an electrically heated furnace. The UO_2 product is discharged through a mill to hoppers where it is sampled for moisture and other properties prior to being charged to the blender.
8. A dry atmosphere is maintained in the blender. Mass and moderation limits are used to determine the size of lots blended. After blending the UO_2 is discharged into approved shipping containers.

Appendix

II. PLANT LAYOUT AND EQUIPMENT DESCRIPTION

1. The building to house this facility is contained within the Jayhawk plant site. It is constructed of steel framework and covered with transite siding. All processing equipment is located along the east half of the building. High equipment such as the extraction columns is located in the 50' high bay in the center of the building. Layout of the equipment is shown on drawings 1-2600-4 and 1-2600-802.
2. The east wall behind the tanks and equipment is lined with stainless steel sheet to facilitate clean-up of spills and splashes. A stainless steel drip pan is provided along this wall under the equipment to contain leaks and spills. There are no floor drains to eliminate the possibility of a spill being lost to the sewer.
3. The UO_2 scrap pellet dissolver is 8.25" I.D. The dissolver for "off-spec" UO_2 powder is a kettle and will be used with mass safe batches. The cold trap is of 4" pipe and the evaporator is 8" Sch. 10 pipe. The pulse columns are 4" pipe with 8" pipe end section. All uranium-containing storage tanks are 10.25" maximum I.D.
4. The UF_6 cylinders are vaporized in a closed room. This room is provided with adequate forced ventilation. The exhaust air from the room is drawn through a scrubbing system to remove any UF_6 vapors. A fluorine detector is located in the duct carrying air from the room to detect any UF_6 leaks. The same fume scrubber system also is connected to a hood over the UO_2 powder dissolver to recover any uranium carry-over from the dissolutions.
5. Storage area is provided in the southwest quadrant of the processing building for feed materials and/or packaged product. Safe spacing will be maintained on all containers of uranium stored in this area. If more space is required, UF_6 cylinders may be stored outside in their bird cages on a concrete pad near the southwest corner of the building.



L&R File COPY

Spencer Chemical Company

Research Center
9009 WEST 67th STREET
Merriam, Kansas

November 20, 1962

REPOSITORY EM FILE RM
COLLECTION FUSEAP
BOX No. _____
VS Spencer Chemical

Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch,
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D.C.

Dear Mr. Nussbaumer:

This is in reply to your letter dated October 25, 1962, referring to our Special Nuclear Material License SNM-329 which expired on September 30, 1962.

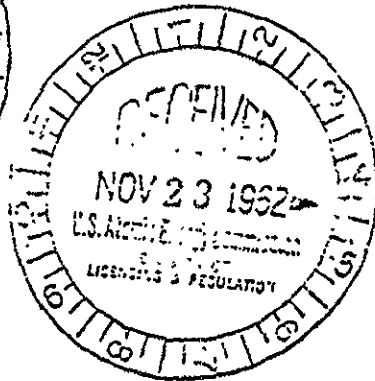
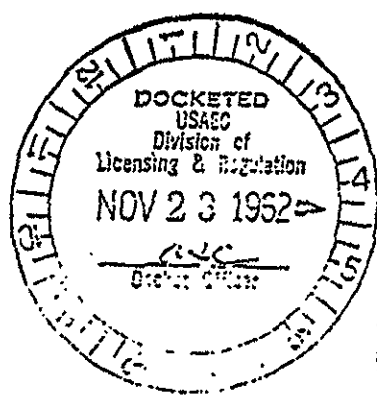
Our Material Status Report (AEC-578) for the period ending December 31, 1961, showed that all special nuclear material had been transferred from SNM-329. No special nuclear material was transferred to SNM-329 after that date.

Licensees to which special nuclear material was transferred are shown on our Material Status Reports for periods before December 31, 1961.

Very truly yours,

N. A. Greenlee
N. A. Greenlee

NAG:fs



ACKNOWLEDGED

-703

LR:JJI
70-340

OCT 25 1962

Spencer Chemical Company
Eight Building
Kansas City 5, Missouri

Attention: Mr. H. M. Greenlee

Gentlemen:

By letter dated July 25, 1962, you were advised that Special Nuclear Material License SEM-329 would expire on September 30, 1962. Since renewal was not requested, it expired on that date.

In order to complete our records please complete and return to the undersigned three copies of the enclosed "Certification of Status of Special Nuclear Material Activities Under United States Atomic Energy Commission License Number SEM- 329 ." Your cooperation will be appreciated.

Very truly yours,

Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Licensing and Regulation

Enclosures:

"Certi...." (3)

Distribution:

Compliance Hdqrs
Compliance Field
Formal
Doc. Rm
Suppl.
Br & Div R's

OFFICE ▶	IR	IR				
SURNAME ▶	J. Lane/ey	D. Nussbaumer				
DATE ▶	10/24/62	10/24/62				

2. continued

- a. The position of furnaces with respect to the location of hoods in "T" Room, Building No. 702, did not conform with Item 1, Page 3 of the license application dated January 4, 1960.
- b. The furnace box was not loaded in the manner described in Item 5, Page 3 of the license application dated January 4, 1960.
- c. Exhaust air from the hood in Room 16 of Building 702 was not filtered as described in Item 4, Paragraph A (Equipment) of the license application dated December 28, 1959.
- d. Fused UO_2 is not stored in an inert atmosphere as described in paragraph 2(b) of the license application dated February 2, 1960.

Pursuant to the provisions of Section 2.201, "Notice of violation," of the ASC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, you are required to notify this office in writing within thirty days of your receipt of this notice, admitting or denying the alleged violations, the reasons for the violations if admitted, the corrective steps taken or to be instituted in achieving correction and preventing further violations, and the date when full compliance has been or will be achieved.

With respect to Item 1(a) above, you are requested to include in your reply the following information:

- a. A detailed description of the air survey program you will follow in determining compliance with Section 20.103(a), and the date that such program was or will be put into effect.
- b. A detailed description of the methods you will follow in determining average weekly airborne radioactivity exposures to those individuals who frequently or occasionally occupy areas with concentrations in excess of Appendix B, Table I, Column 1.

OFFICE ▶					
SURNAME ▶					
DATE ▶					

With respect to Item 1(b) we are enclosing a copy of our air survey guide entitled, "A Basis for Surveying to Determine Concentrations of Radioactive Material Discharged as Air Effluents from Uranium Mills," which may be useful to you in instituting an environmental air survey program to determine compliance with Section 20.106(b).

We note that concentrations of airborne radioactivity in some plant work areas are sufficiently high that it is possible that individuals have been exposed in excess of the limits specified in Section 20.103(a), "Exposure of individuals to concentrations of radioactive material in restricted areas." Therefore, you are requested to submit with your reply to this letter, the results of a weakly weighted exposure evaluation for each employee who is exposed to concentrations of airborne radioactivity in excess of the limits specified in Appendix B, Table I, Column 1.

Very truly yours,

Eber R. Price
 Assistant Director
 Division of Licensing
 and Regulation

Enclosures:

1. 10 CFR 20
2. 10 CFR 2
3. Air Survey Guide

cc: Compliance Division, HQ
 Compliance Division, III
 Public Document Room - to B. Jones for updating

SIGNED CONCURRENCE COPY IN DOCKET 70-146

OFFICE ▶	LR:EB CGW:lrm:REC	CO	LR ERP:ica				
SURNAME ▶							
DATE ▶	2-2 3-16-62						

LRL:CFM

Docket No. 70-340

OCT 1 1959

Spencer Chemical Company
Dwight Building
Kansas City 5, Missouri

Attention: Mr. Harold Lambertus
General Manager

Gentlemen:

Enclosed is Special Nuclear Material License

No. SNM-329.

Very truly yours,

DISTRIBUTION

L. D. Mackay, FIN - OROG, w/encl.
D. F. Musser, MMM, w/encl.
Div. of INS, w/encl.
H. Steele, LRL, w/encl.1
S. R. Gustavson, LRL, w/encl. J. C. Delaney
S/Health, lic. only Chief, Nuclear Materials Section
J. C. Delaney, LRL, lic. only Licensing Branch
Doc. Rm., w/encl. Division of Licensing and Regulation
Formal, w/encl.

Enclosures

SNM-329

Suppl., w/encl.
I&R - LRL Readings, w/encl.
C. P. McCallum, LRL, w/encl.

VIA AIR MAIL

OFFICE ▶	LRL	FIN	LRL			
URNAME ▶	CFM	CFM	Delaney			
DATE ▶	9/2/59	9/2/59	10/1/59			

UNITED STATES
ATOMIC ENERGY COMMISSION

SPECIAL NUCLEAR MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 70, "Special Nuclear Material Regulations," a license is hereby issued authorizing the licensee to receive and possess the special nuclear material designated below; to use such special nuclear material for the purpose(s) and at the place(s) designated below; and to 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 70.32(a) of said regulations, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

Licensee		3. License No.
1. Name	Spencer Chemical Company	SXM-329
2. Address	Dwight Building Kansas City 5, Missouri	4. Expiration Date September 30, 1962
6. Special Nuclear Material		5. Docket No. 70-340
Uranium enriched to 5% in the U-235 isotope.		7. Maximum quantity of special nuclear material which licensee may possess at any one time under this license One thousand (1000) kgs U-235 contained in uranium enriched to 5% in the U-235 isotope.
8. Authorized use For the chemical processing of uranium enriched up to 5% in the U-235 isotope in accordance with the procedures described in the licensee's applications of June 22 and July 28, 1959.		
9. Quantity of special nuclear material allocated to licensee pursuant to Section 70.31(b) of said part None		

CONDITIONS

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

This activity authorized in the licensee's Jayhawk Works located between
Pittsburgh, Kansas and Joplin, Missouri.

For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance

U. S. GOVERNMENT PRINTING OFFICE: 1957-O-388582 J. C. Delaney
Division of Licensing and Regulation

Handwritten: 10/1/59



Home	What's Hot	Laws & Orders	Program Status	Related Sites
Advocacy Info	Fact Sheets	Public Meetings	Archive	Contact Info

DOE Office of Worker Advocacy * DOE Office of Worker Advocacy * DOE Office of Worker Advocacy

Facility List

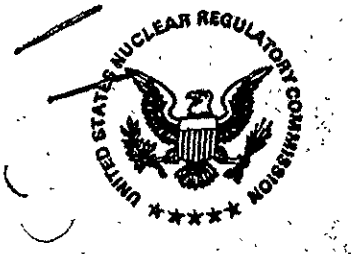
There was one record found for the facility: **Spencer Chemical Co., Jayhawks Works**.

1 - Spencer Chemical Co., Jayhawks Works

State: Kansas **Location:** Pittsburg
Time Period: 1958-1963
Facility Type: Atomic Weapons Employer

Facility Description: The Spencer Chemical Company, Jayhawks Works, processed unirradiated uranium scrap for the AEC, recovering enriched uranium from it for use in the weapons complex. In 1963, Kerr-McGee took over Spencer Chemicals' nuclear operations.

[Home](#) | [What's Hot](#) | [Laws and Orders](#) | [Program Status](#) | [Related Sites](#) |
[Advocacy Info](#) | [Fact Sheets](#) | [Public Meetings](#) | [Archive](#) | [Contact Us](#) |



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 9, 2001.

FOIA/PA 2002-001A
(FOIA/PA-2001-0268)

Dear Requester:

We received your Freedom of Information Act/Privacy Act (FOIA/PA) appeal on October 2, 2001.

Your appeal has been assigned the following reference number that you should use in any future communications with us about your appeal: FOIA-2002-001A.

The following person is the FOIA/PA Specialist who has been assigned responsibility for your appeal: Natalie Brown.

If you have questions on any matters concerning your FOIA/PA appeal, please feel free to contact the assigned FOIA/PA Specialist or me

Sincerely,



Carol Ann Reed
FOIA/Privacy Act Officer
Office of the Chief Information Officer

Enclosure:
Incoming Request



Spencer Chemical Company

DWIGHT BUILDING

Kansas City 5, c. Missouri

10-240
File Copy

June 22, 1959

Mr. J. C. Delaney.
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Mr. Delaney:

We are submitting herewith three copies of our license application covering a facility for handling uranium up to and including 5% enrichment in U-235. The system is designed to process either UF₆ or scrap to an oxide, nitrate or sulfate.

At the present time we are operating a similar but smaller facility under license No. SNM-154, and plan to continue its operation. The plant covered in this application also is to be located at our Jayhawk Works, but is physically located approximately one quarter mile from the smaller plant. Therefore, we are requesting a new license for the facility described in this application. The same laboratory facilities will serve both plants. Our current plant superintendent will have responsibility for both plants.

The new facility is under design and construction and we are planning to have it ready for operation by August 1, 1959. On that date depleted UF₆ will be used as feed for the startup operation. If there is any further information required, please contact us immediately by collect telegram or telephone in order to prevent any undue delay in the consideration of this application.

REPOSITORY 4M F. C. R.

COLLECTION F. H. S. R. P.

BOX No. MO
SPENCER CHEMICAL

Yours very truly,

Nuclear Fuels Department

Harold Lambertus
Harold Lambertus
Manager

HL:el

Enclosures: ~~Four~~ ^{Three} copies of license application, as noted.

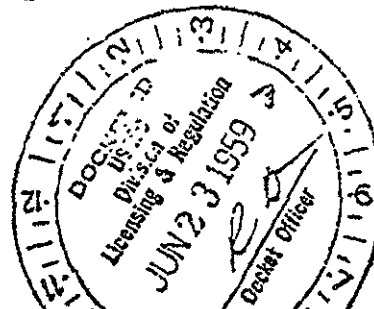


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INTRODUCTION AND APPLICATION

1. This application for a special nuclear material license is submitted by Spencer Chemical Company. The company is incorporated in the state of Missouri and has its principal office in the Dwight Building in Kansas City, Missouri. The principal officers of the Company are:
 - K. A. Spencer - President
 - C. Y. Thomas - General Vice President (Operations)
 - J. P. Miller - General Vice President (Finance)
 - J. E. Culpepper - General Vice President (Marketing)
 - E. V. Friedrich - Vice President, Administration, and Assistant Secretary
 - J. C. Denton - Vice President, Agricultural Chemical Division
 - H. R. Dinges - Vice President, Industrial Chemicals Division
 - F. L. Pyle - Vice President, Plastics Division
 - N. C. Robertson - Vice President, Research and Development Division
 - E. W. Morgan - Treasurer
 - A. Mag - Secretary
2. All these officers have their offices in the Dwight Building except for Mr. Mag whose address is 9 West Tenth Street, Kansas City, Missouri. All are natural born citizens of the United States. The company is not controlled by any alien, foreign corporation or foreign government.
3. This license is requested for the processing of any enrichment of uranium up to and including 5%. The uranium in the form of UF_6 or scrap is to be converted to the oxide. The processing will be done at the Jayhawk Works of the Spencer Chemical Company located between Pittsburg, Kansas, and Joplin, Missouri, with a freight shipping designation of Military, Kansas.
4. The license is requested for ten years.
5. The product of the process normally will be finely divided UO_2 powder. Oxide other than UO_2 may also be produced as finely divided powders. Nitrates and sulphates may also be produced.
6. The uranium will be processed for other licensees. Plant start-up is scheduled for July 20, 1959. The maximum design processing rate is 300 pounds of uranium per day. The actual processing rate will depend upon the exact nature of the feed material and upon customer demand. Inventory of U-235 at the plant will not exceed 1,000 kilograms. Processing losses generally will be held to less.

than one percent, but may exceed this for small lots.

7. The Spencer Chemical Company is currently engaged in the manufacture of ammoniac nitric acid, ammonium nitrate, polyethylene, nylon, urea, methanol and other similar products. Since December 1, 1957, Spencer has been operating a uranium oxide pilot plant (under license No. SNM-154) and has gained much valuable experience in the handling and processing of enriched uranium.

II

QUALIFICATIONS OF PERSONNEL

1. The processing of uranium is the direct responsibility of Harold Lambertus, Manager, Nuclear Fuels. Mr. Lambertus reports directly to H. R. Dinges, Vice President, Industrial Chemicals Division.
2. Mr. Dinges received a B. S. degree in chemistry from College of William and Mary in 1938, where he also served as instructor from 1939 to 1941. He was employed by E. I. duPont de Nemours and Company 1941-42, and Olin Mathieson Chemical Company 1942-47 before joining Spencer Chemical Company in February, 1947. Since February, 1957, Mr. Dinges has been Vice President, Industrial Chemicals Division.
3. Mr. Lambertus received his B. S. and M. S. degrees in Mechanical Engineering from Purdue University and California Institute of Technology respectively. He was employed in 1946 by the American Bearing Corporation where he received a background in engineering, sales and production. He was a vice president at American Bearing prior to his leaving there in 1958, and was responsible for the planning, building and staffing of a nuclear fuel element manufacturing facility. Just prior to joining Spencer Chemical Company as Manager of the Nuclear Fuels Department in April, 1959, Mr. Lambertus served as a consultant to several manufacturers of nuclear fuel elements.
4. The operation of the uranium processing plant is the responsibility of George E. Chenoweth, Plant Superintendent. Mr. Chenoweth received a B. S. degree in chemical engineering from the University of Missouri in 1951. He was employed by Phillips Petroleum Company from 1951 to 1952, and joined Spencer Chemical Company in 1952. He has been responsible for much of the process equipment design for the experimental uranium facilities and has been in charge of the operation of the uranium pilot plant facility since January 1, 1959.
5. Mr. Sinesio A. Zagnoli has been responsible for a major portion of the process design. Mr. Zagnoli received his B. S. in chemical engineering from Purdue University and his M. S. in chemical engineering and Ph. D. in gas technology from Illinois Institute of Technology. He had some three years of industrial experience with petroleum and natural gas industry before his entry into

APPENDIX

I. PROCESS DESCRIPTION

1. This process is designed to produce primarily UO_2 from either UF_6 or scrap. With UF_6 as a starting material, a cylinder is weighed and then vaporized using steam heat. A vacuum pump preceded by a cold trap and a chemical trap permits evacuation and leak testing of the UF_6 piping.
2. The UF_6 is hydrolyzed by admitting the gas into a circulating stream of $Al(NO_3)_3$. Acid may also be added to adjust the acidity. The hydrolysis solution is transferred to rich acid storage.
3. With scrap UO_2 pellets, a weighed quantity of scrap is added to the empty dissolver and HNO_3 circulated through it and a rich acid storage tank until the desired concentration is reached. The dissolver vessel is jacketed to provide for heating or cooling.
4. Since "off-spec" product may be produced from time to time, provision is made for recycling it through the process. This scrap UO_2 powder is dissolved in a kettle using always mass safe batches, and then pumped to the rich acid storage tanks.
5. The rich acid is pumped to a countercurrent pulse extraction column. A solution of tri-butyl-phosphate in kerosene is used as the solvent. The rich organic phase from the extractor overflows to the scrub column. The raffinate flows to the waste storage tanks where it is sampled. From here it is either drained to the sewer or recycled to the system depending on the uranium concentration.
6. In the scrub column the rich organic is contacted with water. The water is recycled to the extraction column and the rich organic flows to the stripper where the uranium is stripped from it with water. The stripped organic phase overflows to a system which continuously cleans the solvent for reuse. The rich aqueous phase is fed to an evaporator to concentrate it and then precipitated with ammonia.
7. The ammonium diuranate precipitate is reduced to UO_2 in an electrically heated furnace. The UO_2 product is discharged through a mill to hoppers where it is sampled for moisture and other properties prior to being charged to the blender.
8. A dry atmosphere is maintained in the blender. Mass and moderation limits are used to determine the size of lots blended. After blending the UO_2 is discharged into approved shipping containers.

Appendix

II. PLANT LAYOUT AND EQUIPMENT DESCRIPTION

1. The building to house this facility is contained within the Jayhawk plant site. It is constructed of steel framework and covered with transite siding. All processing equipment is located along the east half of the building. High equipment such as the extraction columns is located in the 50' high bay in the center of the building. Layout of the equipment is shown on drawings 1-2600-4 and 1-2600-802.
2. The east wall behind the tanks and equipment is lined with stainless steel sheet to facilitate clean-up of spills and splashes. A stainless steel drip pan is provided along this wall under the equipment to contain leaks and spills. There are no floor drains to eliminate the possibility of a spill being lost to the sewer.
3. The UO_2 scrap pellet dissolver is 8.25" I.D. The dissolver for "off-spec" UO_2 powder is a kettle and will be used with mass safe batches. The cold trap is of 4" pipe and the evaporator is 8" Sch. 10 pipe. The pulse columns are 4" pipe with 8" pipe end section. All uranium-containing storage tanks are 10.25" maximum I.D.
4. The UF_6 cylinders are vaporized in a closed room. This room is provided with adequate forced ventilation. The exhaust air from the room is drawn through a scrubbing system to remove any UF_6 vapors. A fluorine detector is located in the duct carrying air from the room to detect any UF_6 leaks. The same fume scrubber system also is connected to a hood over the UO_2 powder dissolver to recover any uranium carry-over from the dissolutions.
5. Storage area is provided in the southwest quadrant of the processing building for feed materials and/or packaged product. Safe spacing will be maintained on all containers of uranium stored in this area. If more space is required, UF_6 cylinders may be stored outside in their bird cages on a concrete pad near the southwest corner of the building.

LRL:GPM
Docket No. 70-340

OCT 1 1959

Spencer Chemical Company
Dwight Building
Kansas City 5, Missouri

REPOSITORY GAM FILE RM
COLLECTION FUSMAP
BOX No.
FOLDER SPENCER CHEMICAL

Attention: Mr. Harold Lambertus
General Manager

Gentlemen:

Enclosed is Special Nuclear Material License

No. SEM-329.

Very truly yours,

DISTRIBUTION

- L. D. Mackay, FIN - OROO, w/encl.
- D. F. Musser, RMI, w/encl.
- Div. of INS, w/encl.
- H. Steele, LRL, w/encl.1
- S. R. Gustavson, LRL, w/encl. J. C. Delaney
S/Health, lic. only Chief, Nuclear Materials Section
- J. C. Delaney, LRL, lic. only Licensing Branch
Doc. Rm., w/encl. Division of Licensing and Regulation
- Formal, w/encl.

Enclosures:
SEM-329

- Suppl., w/encl.
- L&R - LRL Readings, w/encl.
- C. P. McCallum, LRL, w/encl.

VIA AIR MAIL

OFFICE ▶	LRL	FIN	LRL			
SURNAME ▶	<i>CP McCallum</i>	<i>GDraft</i>	<i>Delaney</i>			
DATE ▶	9/7/59	9/7/59	10/1/59			

UNITED STATES
ATOMIC ENERGY COMMISSION

SPECIAL NUCLEAR MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 70, "Special Nuclear Material Regulations," a license is hereby issued authorizing the licensee to receive and possess the special nuclear material designated below; to use such special nuclear material for the purpose(s) and at the place(s) designated below; and to 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 70.32(a) of said regulations, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

Licensee		3. License No.
1. Name	Spencer Chemical Company	SNM-329
2. Address	Dwight Building Kansas City 5, Missouri	4. Expiration Date
		September 30, 1962
		5. Docket No.
		70-340
6. Special Nuclear Material	7. Maximum quantity of special nuclear material which licensee may possess at any one time under this license	
Uranium enriched to 5% in the U-235 isotope.	One thousand (1000) kgs U-235 contained in uranium enriched to 5% in the U-235 isotope.	
8. Authorized use For the chemical processing of uranium enriched up to 5% in the U-235 isotope in accordance with the procedures described in the licensee's applications of June 22 and July 28, 1959.		
9. Quantity of special nuclear material allocated to licensee pursuant to Section 70.31(b) of said part		
None		

CONDITIONS

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

This activity authorized in the licensee's Jayhawk Works located between Pittsburgh, Kansas and Joplin, Missouri

For the U. S. ATOMIC ENERGY COMMISSION

Date of issuance _____

U. S. GOVERNMENT PRINTING OFFICE: 1954-O-332532 J. C. Delaney
Division of Licensing and Regulation

W. J. Delaney
10/1/59

SPENCER

70-146
70-1478

Spencer Chemical Company

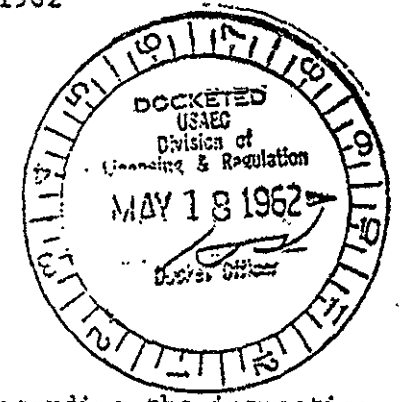
DWIGHT BUILDING

Kansas City 5, Missouri

L&R file

May 14, 1962

U. S. Atomic Energy Commission
Division of Licensing and Regulation
Washington 25, D. C.



Attention: Mr. Eber R. Price

Gentlemen:

This is in response to your letter of 17 April 1962 regarding the inspection conducted at our Jayhawk Works at Pittsburg, Kansas on May 2-5, 1961 under Source Material License C-4352 and Special Nuclear Material Licenses No. SNM-154 and SNM-329.

Replying to your items as listed in your letter, we submit the following information for your consideration:

I. Time-occupancy studies have been made in the area where high air-borne dust samples were observed.

A. Incidents Involving Thorium

Six incidents have been noted involving thorium, natural isotopic assay. The counts of the air samples in these six samples are as follows:

Microcuries
per ml of Air

- 3 x 10⁻¹⁰
- 4 x 10⁻¹⁰
- 2 x 10⁻¹⁰
- 2 x 10⁻¹⁰
- 2 x 10⁻¹⁰
- 5 x 10⁻¹¹

SPONSOR: COM FILE 12
COLLECTION: FASBP
MAY 18 1962
SPENCER CHEMICAL



In all cases, these were 30-minute air samples taken at a position between the man and the hooded operation where the material was being utilized. The air samples therefore represent the absolute maximum that the man could have achieved. Time studies on the operation have indicated that the man is in the operating

position less than 25 minutes during an 8-hour normal shift of operation. During the rest of the time the man would be in other parts of the room or hallways or the building where the air has consistently been 10^{-12} microcuries per ml or less. Therefore, the overall daily exposure would be less than the limits of Part 20.

B. Normal Uranium

Seven instances were observed where the air-borne concentration of normal uranium was in excess of the Part 20 limit. These were as follows:

Microcuries
per ml of Air

1.3×10^{-10}

9×10^{-11}

1×10^{-10}

1×10^{-10}

2×10^{-10}

1×10^{-10}

9×10^{-11}

These instances all occurred at the fusion operation, samples being taken for a 30-minute period at a position approximately head high between the man and the hood where the material was being utilized. Again it was determined that the man was in this operating position less than 25 minutes during an 8-hour shift. At other times he would be in air-borne concentrations ranging from 10^{-12} to 10^{-14} , so that his overall daily exposure was less than prescribed limits.

C. 93% Enriched Uranium

Instances involving 93% enriched uranium have revolved around two pieces of equipment. One was a dry sample splitter where the samples had to be taken between the machine and the man. These were as follows:

Microcuries
per ml of Air

4×10^{-8}

4×10^{-8}

4×10^{-8}

8×10^{-9}

2×10^{-9}

8×10^{-10}

1×10^{-9}

4×10^{-9}

The other was a green salt unloading hood where the air samples encountered were as follows:

Microcuries
per ml of Air

5×10^{-9}

3×10^{-9}

8×10^{-10}

1×10^{-9}

7×10^{-10}

1×10^{-9}

1×10^{-9}

3×10^{-9}

5×10^{-9}

8×10^{-9}

These samples were half-hour samples taken at a position between the man and the hood where the operations were taking place. Therefore this also represents maximum possible exposure to the man.

The operator was in position at the sample splitter once during an 8-hour shift for not more than five minutes during the loading and unloading of the sample splitter. Since the dust samples were on the average of less than 100 times the limit for 93% uranium, and since the man's occupancy is approximately 1/100 of the 8-hour working day, the rest of the time being exposed to air samples of less than 10^{-12} , the daily exposure to any of the operators handling this equipment would not exceed the limits.

At the green salt unloading operation, the exposure is less than 10 times that of the upper limit of Part 20. The unloading operation during which the dust is generated requires approximately 15 minutes during every 8-hour shift. The rest of the time the man would be in air of the room at 10^{-12} or less microcuries per ml of air. Therefore, his overall daily exposure would not exceed Part 20 limits. Operation of the sample splitter and green salt unloading was not carried out by the same operator during a single shift.

The corrective measures which have been taken to eliminate the high air-borne dust around this equipment are as follows:

- A. Thorium Operations. Additional lucite sliding baffles have been installed in these hoods to increase the air flow across the working opening. This has effectively trebled the air velocity and since their installation no high thorium air-borne dust readings have been observed.
- B. Normal Uranium Operation. The hoods where the high dust samples were observed have also been equipped with additional lucite baffles to increase the air flow into the hood at the operator's position. Since the installation of these lucite baffles, no high normal uranium air samples have been observed.
- C. Fully Enriched Uranium Operation. In the green salt unloading station a permanent lucite baffle with slotted arm holes has been installed to greatly increase the linear velocity of air into the hood at the operating position. Since the installation of this lucite baffle, no high readings have been observed at this station.

The sample splitter has been completely overhauled to insure dust tightness. Since the correction of this equipment, there have been no observed instances of high uranium concentrations around this equipment.

1-b. Concentration in Effluents to Unrestricted Area. During the inspection of May 1961, one effluent air sample on a stack indicated a discharge of 1 gram of normal uranium to the exterior air around the plant site. At the time the air-flow through this stack was so low that one gram over a 24-hour period exceeded the limits of Part 20. Two corrections have been made to this stack:

- (1) A filter has been installed downstream from the exhaust fan, and
- (2) The effluent air has been increased by enlargement of the exhaust fan. No high samples have been observed at this point since this corrective measure.

Since the inspection of May 1961, a systematic study of the stack effluents from all operations have been periodically conducted, and no high samples have been observed to date.

- II. A. Position of the furnaces with respect to the hood in the T-room, Building 702: During the actual installation of this equipment, it was determined that the position described in the application would not lend itself to convenient installation of the ventilation exhaust for the furnaces. Therefore, the actual installation position was modified so that the exhaust stacks could be properly positioned. The spacing between the furnaces was still maintained as described in the license application, and the distance from the furnace to the hood was greater than two feet, which also maintained an adequate safety factor from criticality control. We did not feel that such a minor change was properly a subject for license modification.
- B. The loading of the furnace boxes is being conducted in accordance with the license application. Operators and supervisors have been carefully instructed to follow exactly the provisions of the license application.
- C. The hood in Room 16 of Building 702 has been equipped with a filter in accordance with the license application.
- D. The term "inert atmosphere" is a relative description. In the case of fused uranium dioxide, it has been determined that air, CO₂ and/or argon are in fact inert to crystalline UO₂ at room temperature. We feel therefore that free substitution of any of these three gaseous atmospheres is in full compliance with the license.

REC
Washington, D. C.

- 6 -


May 14, 1962

In answer to your further requests, we are attaching as Appendix I the air survey program which was initiated in October 1961, and has been followed since that time.

If further information is desired, please advise.

Yours very truly,

Nuclear Fuels Department


Harold Lambertus
General Manager

WML:el

Attach: Appendix I.

TABLE II

Assignment of Sampling Sequence by Area and Number

<u>Zone No. 1</u> <u>Sample Point</u>	<u>Air Samples</u>	<u>Smear Samples</u>
B6 - DEK office	90	39
K4 - Room 2 office	61	43
K-8 - G.S. office	33	79
A12)	67	62
A13)	11	75
A14)	38	71
B11))))) Lunch Room	82	91
B11)	52	68
B11)	09	98
C11)	54	74
C14)	47	34
D11)	56	42
D12)	95	06
D13)	57	64
D14)		
G8 - Center hall office	16	13
C37)	77	89
D38) Dirty Change area	08	88
E37)	03	99
A42)) Center Hall storage	04	94
B42))	48	70
J27 - Met. lab	17	01
J32)) Clean Change area	45	25
J34)	22	20
L32)	27	96
K39 - Men's Room	28	93
K42 - Center hallway south	12	23

Total - 26

197 17 1962

LR:CGW
40-~~5525~~ 1478
70-146
70-340

REPOSITORY EM File Em
COLLECTION FUSCAP

BOX No. _____
FOLDER MO Spencer Chemical

Spencer Chemical Company
Dwight Building
Kansas City, Missouri

Attention: Mr. Norman Greenlee

Gentlemen:

This refers to the inspection conducted on May 2 - 5, 1961, of activities at your Jayhawk Works, Pittsburg, Kansas, licensed under Source Material License No. C-4352 and Special Nuclear Material License Nos. SNM-154 and SNM-329.

It appears that certain of your activities were not conducted in full compliance with a condition of a license and the requirements of the AEC's "Standards for Protection Against Radiation," Part 20, Title 10, Code of Federal Regulations, in that:

1. Surveys conducted pursuant to Section 20.201(b), "Surveys," were insufficient as follows:
 - a. Time occupancy studies and time weighted exposure evaluations had not been made to determine compliance with Section 20.103(a), "Exposure of individuals to concentrations of radioactive material in restricted areas."
 - b. Environmental air surveys had not been conducted to determine compliance with Section 20.106(b), "Concentrations in effluents to unrestricted areas," with respect to air-borne radioactivity.
2. Facilities and activities did not conform with statements in license applications, in violation of License Condition No. 8, "Authorized use," as follows:

OFFICE ▶	<u>REGISTERED MAIL</u>			
	<u>RETURN RECEIPT REQUESTED</u>			
SURNAME ▶				
DATE ▶				

2. continued

- a. The position of furnaces with respect to the location of hoods in "T" Room, Building No. 702, did not conform with Item 1, Page 3 of the license application dated January 4, 1960.
- b. The furnace box was not loaded in the manner described in Item 5, Page 3 of the license application dated January 4, 1960.
- c. Exhaust air from the hood in Room 16 of Building 702 was not filtered as described in Item 4, Paragraph A (Equipment) of the license application dated December 28, 1959.
- d. Fused UO_2 is not stored in an inert atmosphere as described in paragraph 2(b) of the license application dated February 2, 1960.

Pursuant to the provisions of Section 2.201, "Notice of violation," of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, you are required to notify this office in writing within thirty days of your receipt of this notice, admitting or denying the alleged violations, the reasons for the violations if admitted, the corrective steps taken or to be instituted in achieving correction and preventing further violations, and the date when full compliance has been or will be achieved.

With respect to Item 1(a) above, you are requested to include in your reply the following information:

- a. A detailed description of the air survey program you will follow in determining compliance with Section 20.103(a), and the date that such program was or will be put into effect.
- b. A detailed description of the methods you will follow in determining average weekly airborne radioactivity exposures to those individuals who frequently or occasionally occupy areas with concentrations in excess of Appendix B, Table I, Column 1.

OFFICE ▶					
SURNAME ▶					
DATE ▶					

With respect to Item 1(b) we are enclosing a copy of our air survey guide entitled, "A Basis for Surveying to Determine Concentrations of Radioactive Material Discharged as Air Effluents from Uranium Mills," which may be useful to you in instituting an environmental air survey program to determine compliance with Section 20.105(b).

We note that concentrations of airborne radioactivity in some plant work areas are sufficiently high that it is possible that individuals have been exposed in excess of the limits specified in Section 20.103(a), "Exposure of individuals to concentrations of radioactive material in restricted areas." Therefore, you are requested to submit with your reply to this letter, the results of a weekly weighted exposure evaluation for each employee who is exposed to concentrations of airborne radioactivity in excess of the limits specified in Appendix B, Table I, Column 1.

Very truly yours,

Eber H. Price
 Assistant Director
 Division of Licensing
 and Regulation

Enclosures:

1. 10 CFR 20
2. 10 CFR 2
3. Air Survey Guide

bcc: Compliance Division, HQ
 Compliance Division, III
 Public Document Room - to

B. Jones for w/holding

SIGNED CONCURRENCE COPY IN DOCKET 70-146

OFFICE ▶	LR:EB CGW:LR:REC	CO	LR ER:Price		
SURNAME ▶					
DATE ▶	2-3 3-16-62				

DEC 18 1962

In connection with the expiration of License SMM-329 you are requested to submit at least fifteen days prior to vacating the facility under License SMM-329 or using it for any purpose other than previously authorized under your license a report indicating the levels of fixed and removable uranium contamination existing in the facility. We believe that the levels outlined in items 1 and 2 above should not be exceeded and similar consideration, as previously mentioned, should be given to those areas of equipment which are difficult to survey for built-up contamination.

FOR THE ATOMIC ENERGY COMMISSION

Donald A. Mussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Licensing and Regulation

Distribution:

Compliance Hdqrs (2) w/2c ltr dtd 11/20/62

Formal
Doc. Rm.
Suppl.
Br & Div Rfs

REPOSITORY GMM FILE 12M
COLLECTION FUSBRAP

BOX No. Mo
FOLDER Spencer Chemical

OFFICE ▶	<u>22</u>	<u>LR</u>			
SURNAME ▶	<u>W. J. Kane/97</u>	<u>Mussbaumer</u>			
DATE ▶	<u>12/11/62</u>	<u>12/18/62</u>			

By letter dated July 25, 1962, you were advised that License 324-329 would expire on September 30, 1962. Since renewal was not requested, it expired on that date. Also, by letter dated October 5, 1962, we requested that you complete and return to the undersigned three copies of an enclosure "Certification of Status of Special Nuclear Material Activities Under United States Atomic Energy Commission License 324-329." Since we have not received these copies as of this date, we are enclosing additional copies for completion and return.

In connection with the expiration of License 324-329 you are requested to submit at least fifteen days prior to vacating the facility under License 324-329 or using it for any purpose other than previously authorized under your license a report indicating the levels of fixed and removable uranium contamination existing in the facility. We believe that the levels outlined in items 1 and 2 above should not be exceeded and similar consideration, as previously mentioned, should be given to those areas of equipment which are difficult to survey for built-up contamination.

FOR THE ATOMIC ENERGY COMMISSION

Ronald L. Eisenbaum, Chief
 Source and Special Nuclear Materials Branch
 Division of Licensing and Regulation

Enclosure:
 "Certifi...."

Distribution:
 Compliance Hdqrs (2) w/2c ltr dtd 11/20/62
 Formal
 Doc. Rm.
 Suppl.
 Br & Div Rfs

OFFICE ▶	ER	ER			
SURNAME ▶	McLane/ey	Russbauer			
DATE ▶	12/13/62	12/14/62			

C-FILE 711

ENERGY DIVISION

Olin Mathieson Chemical Corporation

275 WINCHESTER AVENUE • NEW HAVEN 4, CONNECTICUT • SPec 7-7911

October 28, 1950

ATOMIC ENERGY COMMISSION
CONTRACT NUMBER AT-30-1-2374

Mr. Morris Goldberg, Director
Contracts Division
Atomic Energy Commission
New York Operations Office
376 Hudson Street
New York 14, New York

Attention: Mr. Seymour Zirin

Gentlemen:

Approval is requested of the Atomic Energy Commission for the purchase of the following item under our Contract AT-(30-1)-2374. This item will be used in connection with Task II. Copies of quotations received from potential vendors are attached.

ITEM	QUANTITY	DESCRIPTION	PRICE
1	50 lbs.	Depleted Uranium Rod, Nuclear Grade 1" Diameter Rods, 36" Long	\$81.00 per lb.
2	20 lbs.	Depleted Uranium Darcy Commercial Grade	\$18.00 per lb.
TOTAL			\$1,538.00

SELECTED VENDOR:

Devison Chemical Company, Erwin, Tennessee

BASIS FOR SELECTION: Lowest Price Technical Justification
Only bidder (Explanation Attached)

Four copies of this form are submitted to you, three of which are for retention in your files. Will you please return one signed copy to us, indicating your approval of the requested purchase.

Very truly yours,

V. Prato

V. Prato
Product Assistant

REPLY TO: DEPARTMENT OF ENERGY
COLLECTION: 7-27-50
INDEXED: 50
FILED: DEPT. OF ENERGY

Approved for the AEC:

BY [Signature]

S. ZIRIN
AUTHORIZED REPRESENTATIVE

DAVISON CHEMICAL COMPANY

DIVISION OF W. R. GRACE & CO.
BALTIMORE, MARYLAND

October 22, 1959

Mr. W. B. Fuller, Buyer
Olin Mathieson Chemical Corporation
Winchester Plant
New Haven 4, Connecticut

Dear Mr. Fuller:

The following confirms our telegraphic quotation of 10/21/59 for materials on your inquiry No. NFR-1067:

50 lb. Depleted Uranium Rod, nuclear grade, 1 inch diameter - 24 inches length - \$31.50 per lb.
Delivery four weeks.

20 lb. Depleted Uranium Derby, commercial grade, 5-5 1/2 inch diameter buttons - \$13.00/lb.
Delivery from stock.

Above prices are f.o.b. Erwin, Tennessee and our terms are net 30 days.

Very truly yours,

T. C. Runion, Gen. Mgr.
Reactor Materials

TCR:msl

RECEIVED
OCT 23 1959
0221FC - 41009

Spencer Chemical Company

Dought Building
Kansas City 5, Missouri

October 20, 1959

For

Olin Mathieson Chemical Corporation
Winchester Plant
New Haven 4, Connecticut

Attention: Mr. W. E. Fuller, Buyer

Gentlemen:

At the present time Spencer Chemical Company does not supply uranium metal and, therefore, will be unable to quote on your Inquiry No. MFR-1067 dated October 15, 1959.

Thank you for this opportunity. We will look forward to quoting on other requirements which you may have in the future.

Very truly yours,

Nuclear Fuels Department

W. W. Dunn
Sales Engineer

WWD:el

RECEIVED
OCT 21 1959
OFFICE

SEE CONTRACT FOR PURCHASE ORDER NO., VENDOR'S NAME, ADDRESS, INFORMATION IN THIS ENCLOSURE OR AS LATER AMENDED MUST BE REPRODUCED ON EACH SHIPMENT AND INVOICE.

VENDOR CODE: 64995 CONTRACT NO.: 9762 SECTION: ORDER NO.: 610837

REG'N NO. 03-456 SUPP. NO.

SHIP TO AND MARK

Combustion Engineering, Inc.
Central Receiving Station
Prospect Hill Road
Windsor, Connecticut

Mark for: T.B.Bowie/R.C.Brayer

Company
Building
City 5, Missouri

Attention: Mr. H. Lambertus

F.O.B. POINT: Military, Kansas SHIP ON: See Below SHIP VIA: Truck SHIPPING CHARGES: Collect

ITEM QUANTITY DESCRIPTION PRICE

2 200# Fused Depleted Uranium Dioxide
Chemical Composition UO₂ .005 max.
Particle Density 99.0% of theoretical
Particle Size -3 + 20 Mesh \$17.70

Total Net Price \$3,540.00

Note:

1. Delivery: Three (3) weeks after receipt of Purchase Order.
2. Ship for: Station WCE Aect.
Project EK-04-2301-1
Contract AFN(30-1)-2863
3. Notify Mr. T.B. Bowie, Combustion Engineering, of date and method of shipment.
4. Supplementary terms and conditions of Purchase CA-6-61-A
Articles 1 thru 23 are applicable as modified below:
 - a. Article 5, Inspection - Delete word "sole" in line one (1) of paragraph (b).
 - b. Article 6, Warranty - Delete in its entirety except for the first sentence of paragraph (a).

REPOSITORY: *Missouri Natl. Rec. Center*

COLLECTION: *434-98-2174/160-10015*

BOX NO. *46*

FOUNDER: *Dr. H. B. ...*

THE MATERIALS ORDERED HEREIN ARE FOR RESALE NOT FOR RESALE

IMPORTANT

PLEASE INDICATE YOUR ACCEPTANCE OF THIS ORDER BY SIGNING UNDER THE WORD "ACCEPTED" ON THE ACKNOWLEDGMENT COPY AND RETURN SAME TO US PROMPTLY, GIVING DEFINITE SHIPPING DATES. ALL CORRESPONDENCE RELATIVE TO THIS ORDER MUST REFER TO OUR ORDER AND CONTRACT NUMBERS.

INVOICES MUST BE ISSUED IN TRIPLICATE FOR EACH SHIPMENT AND AGAINST ONE ORDER ONLY.

INDICATE IN APPROPRIATE BOX WHEN YOU CAN DELIVER REQUIRED PRINTS IN ACCORDANCE WITH OUR ORDER.

WILL SHIP AS INSTRUCTED ON		WILL SHIP FROM	
PRELIMINARY PRINTS	PRINTS FOR RECORD	CERTIFIED PRINTS	
COVAL	ACCEPTED BY	TITLE	DATE

COMBUSTION ENGINEERING, INC.
PURCHASING DEPARTMENT

BY _____

ORDER NO.	REVISED	REGISTRATION NO. 03-456	SUPP. NO.	ORDER NO. 6102697	SUPP. NO.	QUANTITY 2	PRICE 2
QUANTITY						PRICE	

c. Article 10, Default-Substitute 30 days for 10 days in paragraph (a) (ii).

d. Article 10, Default- Delete paragraph (e) in its entirety.

5. The total liability of Spencer on this purchase order under any circumstance will be limited to the total amount of monies received by Spencer from Combustion Engineering, and will not exceed \$3,540.00.

6. You are not to proceed with this order until the United States Atomic Energy Commission indicates their approval on the face of this order.....

7. Priority Rating:

XO-B-5
Certified Under DMS Reg. 1

B.G. Dean

8. The acceptance of this Purchase Order by Spencer is effective only if Spencer receives the Purchase Order back by December 15, 1961, in a completely approved and valid form.

October 15, 1950

PURCHASING AGENT

OLIN MATHIESON CHEMICAL CORPORATION

Windsor Plant
New Haven 4, Connecticut

INQUIRY NUMBER

NFR-1067

New Haven, Conn.

FROM

Mallinckrodt Chemical Works
2nd & Mallenckrodt Streets
St. Louis, Missouri

QUOTATION
DUE

Immediately.

SHIPPING POINT:

F. O. B.

SUGGESTED
ROUTING:

TERMS

REMARKS

DESCRIPTION

QUANTITY

PRICE

SHIPMENT
DAYS AFTER
RECEIPT OF ORDER

Depleted Uranium Rod, Nuclear Grade
1 inch diameter - 24 inches length

50 lbs.

Depleted Uranium Pellet, Commercial grade
5-5 1/2 inch diameter buttons

20 lbs.

UNABLE TO QUOTE

ADVISE HOW TO BEST DELIVER BY AIR.

FOR INFORMATION OF THE PURCHASER.

QUOTATION

October 19, 1950

SR:JL
70-340

OCT 25 1962

REPOSITORY EM FILE R

COLLECTION FUSREP

COX No. 110
Spencer Chemical

Spencer Chemical Company
Eight Building
Kansas City 5, Missouri

Attention: Mr. H. M. Greenlee

Gentlemen:

By letter dated July 25, 1962, you were advised that Special Nuclear Material License SM-329 would expire on September 30, 1962. Since renewal was not requested, it expired on that date.

In order to complete our records please complete and return to the undersigned three copies of the enclosed "Certification of Status of Special Nuclear Material Activities Under United States Atomic Energy Commission License Number SM-329." Your cooperation will be appreciated.

Very truly yours,

Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Licensing and Regulation

Enclosures:
"Certi...." (3)

Distribution:
Compliance Hdqrs
Compliance Field
Formal
Doc. Rm
Suppl.
Br & Div PEs

OFFICE ▶	<i>JL</i>	<i>IR</i>			
SURNAME ▶	<i>J. Lane/ey</i>	<i>DN</i> DANUSBAUMER			
DATE ▶	<i>10/24/62</i>	<i>10/24/62</i>			



L&R File Copy

Spencer Chemical Company

Research Center
9009 WEST 67th STREET
Merriam, Kansas

November 20, 1962

REPOSITORY GEM File RW
COLLECTION FUSEMP
BOX No. MC
CLERK Spencer Chemical

Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D.C.

Dear Mr. Nussbaumer:

This is in reply to your letter dated October 25, 1962, referring to our Special Nuclear Material License SNM-329 which expired on September 30, 1962.

Our Material Status Report (AEC-578) for the period ending December 31, 1961, showed that all special nuclear material had been transferred from SNM-329. No special nuclear material was transferred to SNM-329 after that date.

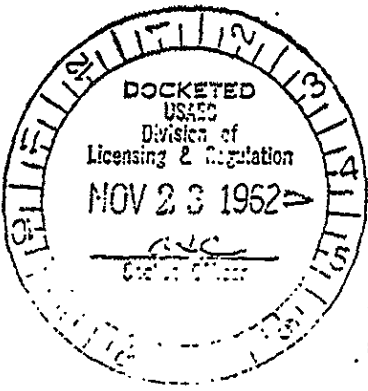
Licenses to which special nuclear material was transferred are shown on our Material Status Reports for periods before December 31, 1961.

Vary truly yours,

M. A. Greenlee

M. A. Greenlee

NAG:fg



ACKNOWLEDGE

REPOSITORY SM File 10
COLLECTION FUSCAP

BOX No. _____
ORDER SPENCER CHEMICAL

Docket 70-340
Spencer Chemical
Research Center
9009 West 67th Street
Merriam, Kansas
Kansas City, Missouri

13:35L
70-115 and 70-310

Spencer Chemical Company
Research Center
9009 West 67th Street
Merriam, Kansas

DEC 18 1962

Attention: Mr. N. A. Greenlee

Gentlemen:

This refers to your letter of November 20, 1962, informing us of your action to terminate License SM-154.

At least fifteen days prior to vacating this facility, or using it for any purpose other than authorized under your license you are requested to submit to us a report indicating the levels of fixed and removable uranium contamination existing in the facilities. We believe the following levels should not be exceeded:

1. For alpha radioactivity
 - a. 25,000 d/n/100cm² peak
 - b. 5,000 d/n/100cm² average
 - c. 1,000 d/n/100cm² maximum removal by wiping the area with a dry filter or soft absorbent paper.

2. Beta and Gamma
 - a. 1.0 millirad per hour maximum at one centimeter from any contaminated surface measured with a beta-gamma survey meter through a tissue equivalent absorber of not more than 7 mg/cm².
 - b. 0.2 millirad per hour average, measured as above.
 - c. 1,000 d/n/100cm² maximum removable by wiping the area with a dry filter paper or soft-absorbent paper.

Consideration will be given to cancellation of License SM-154 on receipt of your report of contamination levels. Please note that pipes, columns, ducts or other areas difficult to survey for built-up contamination must be treated as containing special nuclear material and should be disposed of prior to termination of the special nuclear material license.

OFFICE ▶					
SURNAME ▶					
DATE ▶					

L&R:JCD
70-340

FEB 24 1960

REPOSITORY EM File Rm
COLLECTION FUSREP
BOX No.
FOLDER SPENCER CHEMICAL

Spencer Chemical Company
Nuclear Fuels Department
Kansas City, Missouri

Attention: Mr. Harold Lambertus

Gentlemen:

You are hereby allocated 11.92 kg contained U-235 as UF₆ containing uranium enriched to 3.24 plus or minus 0.063% U-235 for use under your License SSM-329.

For details regarding procurement of the allocated material prior to June 30, 1960, you should communicate with the Oak Ridge Operations Office, U. S. Atomic Energy Commission, P. O. Box E, Oak Ridge, Tennessee, Attention: Mr. H. J. McAlduff, Jr., Division of Production.

Very truly yours,

Distribution:

- L.D. Mackay, FIH-OROO
- H.J. McAlduff, Jr., GROOW/IMDraft (3)
- F.F. Musser, NMM, w/IMDraft
- S.R. Gustavson, L&R, w/IMDraft
- H. Steele, L&R
- IMS. w/cy appli. dtd 2/11/60 (TWX)

J. C. Delaney
Chief, Nuclear Materials Section
Licensing Branch
Division of Licensing and Regulation

- Formal
- Suppl., w/IMDraft
- Doc. Rm.
- Br. Reading File
- Div. Reading File

AIR MAIL

OFFICE ▶	FEI	L&R	NMM			
SURNAME ▶	<i>[Signature]</i>	<i>[Signature]</i>	H. A. Conroy <i>[Signature]</i>			
DATE ▶	2/17/60	2/24/60	FEB 24 1960			

110,001
THE AEROSPACE CORPORATION

INTEROFFICE CORRESPONDENCE

TO: File

cc: A. Wallo
B. Fritz
C. Young
F. Hoch

7117-01.85.sej.08
DATE: 27 March 1985

SUBJECT: SPENCER CHEMICAL CO., JAYHAWK WORKS

Sue
FROM: S.E. Jones
BLDG: ROOM:
EXT:

The Spencer Chemical Co. Jayhawks Works, located between Pittsburg, Kansas and Joplin, Missouri, was licensed by the NRC under Source Material License C-4352 and Special Nuclear Material Licenses SNM-154 to operate a uranium oxide pilot plant, and SNM-329 to process enriched uranium (for other licensees). Headquarters for the Spencer Chemical Company appear to have been located at the Dwight Building, Kansas City, Missouri, and the Research Center, 9009 West 67th Street, Merriam, Kansas. Licensing activities for the Jayhawks facilities was managed at these two locations.

Because the facility was operated under NRC license, assurance of compliance with applicable standards for unrestricted use at termination of operations would be the responsibility of the NRC under their licensing authority.

REPOSITORY EM FILE EM

COLLECTION FUSRAP

BOX No.

Mo
FOLDER SPENCER CHEMICAL

COMPLIANCE INSPECTION REPORT

Name and address of licensee
Spencer Chemical Company
Dwight Building
Kansas City 5, Missouri

Date of inspection
January 20, 1959
Type of inspection Initial
10 CFR Part(s) applicable
20 and 70

License number, issue and expiration dates, scope and conditions (including amendments)

License No.	Date	Expiration	Scope and Conditions
SKK-154 As Amended	7-28-58	7-1-59	Uranium enriched in the U-235 isotope, not to exceed 100 kilograms of contained U-235, for use in the process of converting UF ₆ to UO ₂ , or scrap material to nitrate or oxide, using the procedures described in the applications of Sept. 15, Oct. 7, and Dec. 19, 1957; April 16, May 14 and 16, June 6 and 23, 1958; except that for the blending operation approval is given under the May 16, 1958, application for the blending of material up to 7.3% enriched in U-235. A maximum batch size containing no more than 100 kilograms of U-235 provided the blending operation is conducted in a dry non-hydrogenous atmosphere.

Conditions: Authorized activity to be conducted at licensee's Jayhawk Works located between Pittsburg, Kansas, and Joplin, Missouri.

Inspection findings (and items of noncompliance)

The licensee's current program involving the use of low enrichment materials presents an acceptable risk of hazard from criticality and radiological health and safety of Spencer Chemical Company personnel and the general public. General procedures and operating rules to insure criticality safety are used as described in the license. Check list procedures are not in use, however, log book and data sheets are used for control of the process. The process equipment in Spencer's facility largely conforms that described in their application of May 16, 1958, except that modifications were made in the pulse columns and the evaporator was insulated with several inches of insulating material which forms a reflector. Written radiological health and safety procedures were submitted as part of the application, however, these are mostly explanatory descriptions of material and not specific detailed safety rules for the program. Working control and process control samples are routinely taken and analyzed. Adequate records are kept for accountability of licensed material. Records have been kept of waste disposals. Radiation surveys have been made and records kept of the survey findings. Records are kept of monthly film badge readings supplied by the R. S. Landauer Company. Records are kept of monthly urinalysis results from the Nuclear Balance and Engineering Corporation. The licensee's facilities were found to be posted in accordance with the requirements of 10 CFR 20. The only items of noncompliance observed...

REPOSITORY
NRC Public Document Room
COLLECTION
FOIA 2000
FOIA 91-331
BOX NO.
FOLDER
Huddle, John D. 7/16 2/22

Date of this report (unless you are disclosing confidential information contained in this report) Yes No
August 19, 1959 (unless otherwise indicated) 7220
Inspected by 2100

DISTRIBUTION
Director, Health, Safety and Environment
Division of Licensee Operations
Washington, D.C. 20545
William W. [Signature]
John [Signature]

January 19, 1959
(Date report prepared)

Additional space is required for any numbered item above, the continuation may be extended to the reverse of this form using fast to head lettering sufficient to identify the heading, identifying each item by number and being continued on the face of form under each item.

See [unclear] for phone write-up. p. 20

15/40

1. Name of the licensee

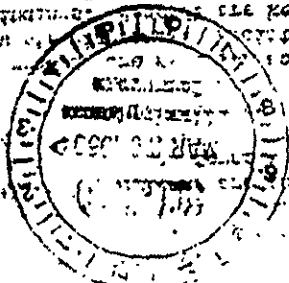
2. Name of the holder of the license

6. Inspection findings (and items of non-compliance)

Item 6 of the license:

The licensee has made substantial changes in the organization and other key personnel. (1) approved in the licensee's application. These changes have not been reported in paragraph 13 of the report details.

(2) (a) Changes made by the licensee in the description sections of the false columns are not in accordance with the changes approved in the licensee's application. (b) Insulating material used in a six inch process vessel.



Call to Barry on 5-13-59

Following:

- a) Ref II 32 re no survey about blunder - Inspector explained situation in order with respect to...
- b) Ref II 30 re instruction of personnel lacking. Had overlooked citation of me with 20.
- c) Ref II 33 re high temperature report. He considered it highly unlikely that the personnel exposure was greater than 900. He info. concerning this matter, but could not find violation of 200.

7. Date of inspection
8. Date of inspection

DETAILS

I. GENERAL INFORMATION

9. On January 20, 1959, an initial inspection was made of the special nuclear and source material programs being conducted, under License Nos. SM-154, C-3571 and R-218, by the Spencer Chemical Company in their Jayhawk Plant near Pittsburg, Kansas. Visits were made to the Spencer Chemical Company's offices in Kansas City, Missouri on January 19 and January 21 and the inspection of the Jayhawk Plant facilities was made on January 20, 1959. Spencer's Kansas City offices were initially visited to discuss administrative controls exercised by the Kansas City office over the licensed programs at the Jayhawk Plant. The second visit was made to the Kansas City office on January 21, to discuss the inspection findings at the Jayhawk Plant with the appropriate and responsible administrative personnel.
10. On August 28, 1958, the Licensee Inspection Division, Albuquerque Operations Office made an assist inspection of the activities being conducted under License Nos. C-3571, R-218 and SM-154, in the Spencer Chemical Company's Jayhawk Plant at Pittsburg, Kansas. A copy of the Albuquerque covering memorandum and inspection report will be transmitted at the time this report is submitted to Washington headquarters.
11. Dr. Peter A. Morris, Division of Inspection, Headquarters, and Mr. J. T. Sutherland, Inspection Division, OROO, accompanied W. W. Peery, Inspection Division, OROO, on the visits of the 19th and 20th while only Mr. Sutherland accompanied Mr. Peery on the visit of the 21st. Dr. Morris' primary purpose in the visits was the evaluation of the criticality aspects of the programs being conducted under SM-154 and his findings, observations and conclusions are included as an integral part of this report.
12. Licensee personnel interviewed at Spencer's Kansas City offices included Mr. H. R. Dinges, Vice President, Industrial Chemicals Division, Mr. L. H. Landrum, Manager of the Nuclear Fuels Department and Mr. Gordon Crowe of the same Department. Mr. Crowe reports to Mr. Landrum, who reports to Mr. Dinges. Persons contacted at the Jayhawk Plant included Mr. G. E. Chenoweth, Superintendent; Mr. R. Jopp, Assistant Superintendent in charge of the nuclear fuels plant operations and maintenance; Mr. E. G. Marhofer, Supervisor of the laboratory; Mr. F. L. Turbett, experimentalist; and Mr. J. E. Smith, Safety Director. Messrs. Jopp, Marhofer and Turbett report to Mr. Chenoweth who reports to Mr. Landrum.

II. ORGANIZATION

13. The individuals interviewed and their corresponding capacities reflect some changes in personnel and their assigned responsibility from that submitted in the Licensee's application dated September 15, 1957, and a part of the Licensee's application bearing the title "Health and Safety in Handling Uranium", dated February 19, 1958. Mr. L. G. Stevenson was previously responsible for many of Mr. Chenoweth's current duties including responsibility for over-all radiological health and

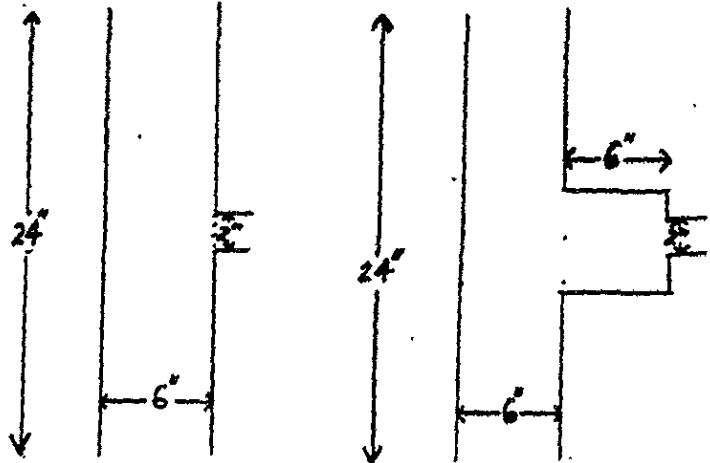
complete inventory of all licensed material. Mr. Jopp has assumed Mr. Stevenson's duties as supervisor of the pilot plant operation. The above personnel changes resulted from an organizational change about the beginning of 1959. Prior to this time, responsibility for the licensed program was assigned to the Research & Development Division which has as its director, Dr. N. C. Robertson. Personnel of the R & D Division conducted the program as described in the application. Responsibility for the program has now been assigned to the Nuclear Fuel Department which was created within the Industrial Chemicals Division. Only a part of the personnel previously associated with the licensed program were transferred to the new department. Mr. Landrum, Manager of the Department, has a small staff in the Kansas City office and Mr. Chenoweth, Superintendent of the Jayhawk Plant, licensed activities, has a staff of 12 to 18 operators of whom 6 to 8 are salaried. Mr. Jopp supervises the operation of the pilot plant and has four shift foremen and operators who report to him.

The Company relies on Dr. R. Mesler for technical evaluation of criticality aspects of their special nuclear material program. Dr. Mesler is a professor of Chemical Engineering at the University of Kansas, Lawrence, Kansas. Dr. Mesler's background includes the Oak Ridge School of Reactor Technology, 1951 - 1952, Ph.D., University of Michigan, 1955, Project Engineer for the Ford Nuclear Reactor and Assistant Professor of Nuclear Engineering, University of Michigan, 1955 - 1957.

III. FACILITIES

14. The Spencer Chemical Company has general offices in Kansas City, Missouri with the Jayhawk Plant being one of six Company plants located in various sections of the country. The Jayhawk Plant is located in Kansas approximately 25 miles south of Pittsburg, Kansas and about 20 miles west of Joplin, Missouri. The facilities being used at the Jayhawk Plant for the licensed programs include the pilot plant process contained in Building 709, a separate analytical laboratory and a storage vault separately located in Building 703. Limited quality control work is being done in a building which has been designated as the facility in which the licensee plans to install process equipment of essentially the same design as that currently in use in the pilot plant. Processing would be more on a production scale in the larger building. Facilities for conducting the quality control tests consist of a heliarc welding unit, a small nonflammable box in which samples are fused and a funneled duct and blower to exhaust fumes to the outside atmosphere. The area is posted and entry is somewhat restricted by placement of cabinets and other equipment to form a perimeter to the area. A facility separate from the pilot plant is provided for clothing changes prior to entering and after leaving the pilot plant. Coveralls are furnished to pilot plant personnel and laundry equipment is available in the building. A lunch room is also provided in the change room area.
15. The process equipment in Spencer's pilot plant largely conforms to that described in their application of May 16, 1958, with exceptions noted as follows:
 - a. The separation sections at the top of the two pulse columns instead of being cylinders of 6 inch I.D. by 2 feet in length are actually 6 inch I.D. by 2 feet sections with tees of similar I.D. and approximately 6 inch length. (See diagram below)

- (1) As indicated on application (2) Actual Installation.



The 2" pipe leading away from the column does not tie directly into the 24" section but rather into the 6" tee on the side of the section.

- b. Insulating material several inches thick is present around a 6 inch process vessel (evaporator EF-16), forming a reflector. From the back-up material there is no indication that insulating material is specified for the evaporator although this may be a type item generally understood where heat is involved.
16. Radiation survey instrumentation consists of the following:
- 3 Sears Roebuck "Tower", model 6159 GM survey meters.
 - 1 Nuclear-Chicago model 2612 GM survey meter.
- Two of the "Tower" survey meters were randomly tested for reaction to a radiation source and found to be responsive. These instruments are not suitable for surveying for a radiation.
17. Storage facilities consist of a concrete vault, approximately 14 x 20 ft., which is equipped with a steel combination lock door. The section of Building 703 in which the vault is located is empty at the present time. The vault is provided with a floor drain, exhaust fan, and has a steam radiator mounted on one wall. No provisions for physical separation of SRM containers other than bird cages (such as shelves, racks or cupboards) are available in the vault.
18. Spencer Chemical Company has submitted plans of its proposed radiation alarm system to the Division of Licensing and Regulation for approval as required by 10 CFR 70.24. The application was dated December 19, 1958, and requested that all of the plans be considered Company Confidential. The Division of Licensing and Regulation requested in a letter to the Licensee, dated January 19, 1959, that Spencer withdraw or re-phrase

their request so that parts of the proposal would not be unnecessarily classified Company Confidential. It is noted that the Licensee's application was not submitted within the 30 day period stipulated in 10 CFR 70.24.

IV. PROCESS DESCRIPTION AND PURPOSE

19. The purpose of the Licensee's pilot plant is to process several types of starting uranium bearing materials for use in the fuel cycle of nuclear energy. The purified uranium compounds from the process may be used in research and development and/or actual core material for nuclear reactors. Purification is done principally by solvent extraction and the process is designed to produce primarily U₂O₇ from U₃O₈ or scrap. Further compounding of Spencer's purified materials by the ultimate consumer may be necessary since it is the policy of Spencer not to compete with their customers in manufacturing uranium containing products for specialized uses. The pilot plant was originally designed to process uranium of any enrichment in accordance with the license approval received for their application dated September 15, 1957. The current program at Jayhawk is being conducted in process equipment modified in accordance with licensed approval received for their application dated May 16, 1958. This last approval was granted for processing only materials containing up to 5% enrichment. The process equipment must be physically modified for enrichments up to 10% and further modified so that the equipment originally approved in the September 15, 1957, application is used for enrichments > 10%.
20. Changes in the enrichment of materials being processed are said to require approval of the department manager, before execution. The differences noted in process equipment from that approved under the license were brought to the attention of Messrs. Landrum and Chenoweth. They were informed that the Division of Inspection would probably recommend to the Division of Licensing and Regulation that an amendment be required to SM-154 before operations are permitted with highly enriched material. It was explained that an amendment to the license approving the equipment that differs from that presently approved should particularly be sought. Messrs. Landrum and Chenoweth were also advised that the Licensee should always consult the Division of Licensing and Regulation when there is any doubt whether an amendment to their license is required or whether changes in equipment or procedures should be reported, before such changes are made. Both men concurred with these proposals and indicated that such a procedure would be followed in the future.
21. At the time of the visit the plant was in operation, processing natural uranium, according to procedures described in the license application, to produce U₂O₇ powder. The Licensee had on-hand scrap U₂O₇ pellets, enriched to 1.5% of U-235 which are scheduled to be processed within about one week. There are no plans to process material with enrichments greater than 5% in the near future, however, it is planned that material of higher enrichment will be processed at some time in the future and the process equipment presumably will be modified to conform with that approved in the license. Mr. Chenoweth indicated that it is expected that the present processing facility will be moved to the larger building by about mid-summer of 1959, at which time a larger inventory of special nuclear material will be desired. It is planned that all licensed

material will be confined to this building. This arrangement is desirable because it increases the control of the licensed material in the Jayhawk Plant which is also engaged in the production of agricultural chemicals.

V. CRITICALITY CONTROL PROCEDURES

22. General procedures and operating rules to insure criticality safety are used, as described in the license. Check list procedures are not in use, however, log book and data sheets are used for control of the process. Samples are taken and analyzed routinely each shift as a control measure. Non-routine samples are also taken when it is deemed necessary. Generally, criticality control is obtained by maintaining "ever-safe" geometry and mass limitations. The analytical samples are used in part to determine mass by establishing solution concentration before transfer to a vessel whose geometry is not "ever-safe". Safe geometry is frequently dependent on administrative control. Isotopic assay of materials received and shipped is not currently done at the Jayhawk Plant. Information on assay of highly enriched material in the past has been obtained from the shipper, however, they are considering plans for doing isotopic analysis of highly enriched material to be done at the Jayhawk Plant. Stainless steel catch pans are provided under practically all vessels in the process and criticality safe catch pans are provided under all vessels that present potential spills of unsafe volumes of up to highly enriched materials. Spills would probably be observed soon after they occur since operating personnel are present on a 24-hour basis. The Licensee's process equipment contains the inherent possibility of leakage from vessel to jacket and vice-versa thus creating a possible criticality hazard. Control of this hazard is the responsibility of the operators diligent observance of pressure differential changes and visual changes in volume of associated vessels. Some of the tanks in the process are not criticality safe, these are primarily storage tanks and the valves leading to these tanks are said to be controlled by supervision and analysts who are responsible for determining that U-235 concentrations are below approved amounts before transfer of the solutions to the unsafe tanks. Overflow of solution from the evaporator (EP-16) to water storage tanks (T-11) could result in a criticality hazard. An overflow container has been installed to prevent this, however, this control is dependent on an operator's visual check of the container at 30 minute intervals. Control of mass safe limits in process furnaces is dependent on visual determination by operators that 15% of furnace tube capacity is not exceeded and that no greater than accepted amounts of uranium throughput exists. The control of all the foregoing possible criticality hazards are largely dependent on the diligence of direct plant supervision and operators.
23. Administrative personnel are responsible for modifying the process equipment to meet the licensed approved specifications for materials of a particular enrichment. Administrative personnel are also responsible for assuring that only material of single isotopic analysis will be used in the system at one time. It was noted that the Licensee's nuclear material storage vault is also used for storing Company documents in filing cabinets, and is, therefore, accessible to personnel outside the Nuclear Fuels Department. It was pointed out to Mr. Chenoweth that the Division of Licensing and Regulation would probably expect that access to the vault be limited to personnel in the Nuclear Fuels Department who are responsible for the material stored there and also desire that there be limited access to the vault before approving an increased SNM inventory in an expanded program.

VI. QUALITY CONTROL AND PROCESS CONTROL SAMPLE ANALYSIS

24. The fusing of U O₂ samples is done to determine the sintering qualities of this product. Small samples of approximately one gram are fused with heat from a heliarc unit. The samples are placed in graphite crucibles and fired with the heliarc inside a small non-flammable box. Shaded glass is used by the technician to view the process through a small opening in the top of the box.
25. Calorimetric analysis of samples are made in the laboratory to determine uranium content. Mr. Marhofer is responsible for control of these samples in the laboratory. Samples from various points in the process are analyzed in this laboratory as an integral part of process control both from the standpoint of quality and criticality considerations.
26. The license requires that blending of material be done in a dry atmosphere. In the past this was done by purging the blends with nitrogen before each blending. The material from the dry box to blender is conveyed in closed containers. Since the inspection we have been informed that the blender now has a direct connection with the dry box to utilize the same dry gas for control of moisture. Mr. Chenoweth stated that a moisture analysis is made daily on the oxide powders and the results have consistently indicated a moisture content of 0.1 to 0.2% by weight.
27. Spectrographic analysis of samples from the Licensee's program is being made at Rockhurst College, Kansas City, Missouri under SNM-257 issued to the College on October 21, 1958. This program was inspected on January 22, 1959, and the inspection findings are contained in a separate report dated February 5, 1959. This report contained one item of non-compliance with 10 CFR 20.401(c) in that the Licensee had not maintained records of surveys as required by this section of the regulations. The issuance of SNM-257 corrected one item of noncompliance cited in Item 6 of Form ABC-417 submitted with ALOO report dated 7-11-58 and included as attachment A of this report.

VII. ACCOUNTABILITY

28. Complete and systematic records are kept of materials received and transferred in the Licensee's program. Mr. Chenoweth is responsible for keeping such records. A separate record is kept of each shipment of material from receipt, during processing and through transfer of Spencer's finished product. Special nuclear materials inventory from July 30, 1958, to December 31, 1958, reflects the followings:

	<u>Uranium Compounds</u>	<u>U-235 Content</u>
Total Receipts	644,495 grams	14,083 grams
Shipments	<u>448,865</u> 195,820	<u>11,601</u> 2,482
Losses:	<u>2,734</u>	<u>116</u>
On Hand	193,096	2,366
Previous Inventory	<u>3,458</u>	<u>594</u>
Total On-Hand	196,554	2,960

Of the total on-hand SNM, 196,069 grams are scrap U₂O₃ pellets of 1.5% enrichment from the Commonwealth Edison Company. Only small amounts of normal material to 2268 grams have been transferred under License No. R-218. Small amounts of material remaining on-hand from receipts under C-3571 are said to be covered now under License No. C-4352 and future orders of similar materials will be made under the new license. License No. C-3571 expired September 1, 1958, and R-218 expired February 1, 1959. The approaching expiration of R-218 was called to the attention of Mr. Chenoweth. The Inspection Division, OROO, did not receive a copy of License No. C-4352 and back-up material until February 19, 1959. In a letter, dated September 8, 1958, the Division of Licensing and Regulation authorized receipt by the Licensee, prior to June 30, 1959, of 227 kg of normal uranium as U₂F₆ for use under License No. C-3571. The date of the authorization letter and the final authorized delivery date in the letter are both after the expiration date of the license. A complete audit of the Licensee's material receipts and transfer records was not made, however, the manner in which such records are being kept indicates that an accurate accounting can be made at any time. The licensee establishes eligibility to receive before transfers of licensed material are made to the recipient.

VIII. WASTE DISPOSALS

29. The uranium content of waste tanks is determined before the tank is discharged to the settling basin and/or the effluent stream from the plant which flows into an unrestricted stream adjacent to the Spencer Jayhawk Plant property. The settling basin has a water flow of about 950,000 gallons/hr. which gives a considerable dilution factor. A record is kept of the analytical results of samples taken of wastes discharged to the settling basin and thence to the Jayhawk waste treatment plant. The record of waste tank analysis shows a discharge of uranium to the settling basin of solutions containing to .6 grams/liter and other sample results indicate that discharges to the settling basin has averaged approximately .05 grams/liter. During the month of November 1958, a representative total of 767 grams of uranium was discharged to the settling basin at the above rate of approximately .05 grams/liter. With the above amounts of material diluted by the settling basin water flow and the over-all plant effluent results in a concentration of less than 7×10^{-6} $\mu\text{C}/\text{ml}$ (specified in 10 CFR 20.103 as the MPC). The g/liter units used above are operational procedure limits, but sufficient records in $\mu\text{C}/\text{ml}$ units are kept to meet the requirements of Part 20. Records were not available of results of analysis of samples taken at the point of discharge of waste stream from the uranium facility to the unrestricted area but any measurements at this point should be even less than discussed above because of additional dilution. However, Mr. Chenoweth and Mr. Smith, Safety Director, stated that the State of Kansas Health Department has counted such samples for them and reported no radioactivity greater than permissible levels of 10 CFR 20. The Kansas Health Department informed that a study of the natural radioactive content of the stream adjacent to and up-stream from the Jayhawk Plant should be made for more accurate determinations of the activity being contributed to the stream by the Jayhawk Plant. These were random "grab" samples, and no routine, constant sampling method is in use at this point in the plant effluent. Messrs. Smith and Chenoweth indicated that any

available past sample results and future results on such samples will be kept. A record of the sample counts on settling basin water and silt from 11-5-58 to 12-9-58 shows gross beta and gamma levels of $.6 \times 10^{-9}$ to 13×10^{-9} $\mu\text{c}/\text{ml}$. Mr. Smith stated that these samples were also counted by the Kansas State Health Department. These are also "grab" type samples. This present method of sampling is adequate since samples taken of wastes prior to discharge to the pond have not shown levels greater than MPC for discharge to unrestricted areas, for the processing currently being done. However, if an increase is seen in the uranium content of waste tank samples, constant sampling of the effluent would be necessary for adequate evaluation of waste disposals to unrestricted areas.

II. RADIOLOGICAL SAFETY PROCEDURES

30. Written radiological health and safety procedures were submitted as a part of the application, however, these are mostly explanations and descriptions of material and not specific detailed safety rules for the program. Pilot plant personnel are verbally instructed to laundry coveralls daily, however, no routine monitoring of clothing has been ordered by written procedure. The plant operating procedures could more nearly be considered safety procedures, however, neither has been distributed or discussed with personnel to assure complete familiarity and no periodic sessions are held to impress, remind, or instruct personnel in radiological health and safety or to re-emphasize the importance of adherence to established procedures designed to control criticality hazards. Mr. Chenoweth stated that to his knowledge personnel have not been expressly given an explanation of the nature of an accidental criticality excursion and the scope of the potential hazard.

I. RADIATION SURVEYS AND PERSONNEL MONITORING

31. Records kept of radiation survey findings indicate relatively low alpha and beta contamination. Levels of the order of 300 - 400 d/m alpha activity and readings on smears with GMSM of .02 to .09 mr/hr. beta have been detected. A record has been kept of routine readings taken in the plant area with GMSM w/ thin window tube. These readings range from natural background to 4 mr/hr. with most readings between background and .5 mr/hr. Mr. Smith stated that corrective action is requested for any readings observed to be as much as 1 mr/hr. Establishment of the above survey records may be considered corrective action for the survey record deficiency reported as an item of noncompliance in ALOO report of 9-11-58 and included as Attachment A of this report.
32. Available sample results covering the period from 9-4-58 to 12-1-58 show levels of air activity for alpha and beta ranging from 1.01×10^{-13} to 2.2×10^{-13} $\mu\text{c}/\text{ml}$. These air samples are randomly taken with a portable sampler of the filter paper disc type with a calibrated air flow. Samples have been taken at some points in system where airborne radioactivity is likely to occur, however, Mr. Chenoweth stated that samples had not been taken at the blender or at least he knew of no sample results from that location. Mr. Chenoweth agreed that air samples at the blender location, during blending, appeared desirable and that such sampling would be done. It was pointed out to Mr. Chenoweth that additional and routine air sampling procedures would make a more complete evaluation of the air contamination status of the Jayhawk processing plant possible. Air sampling of the sintering process was also discussed.

Mr. Chenoweth agreed that such sampling was needed and would be initiated.

33. Personnel in the Licensee's program are monitored with a monthly film badge service furnished by R. S. Landauer Company, Park Forest, Illinois. Records are kept of the Landauer reports as well as a cumulative record of each individual's radiation dose. Records from August 1958, to December 1958, show no monthly exposures > 45 mrem gamma or 115 mrem beta except for one individual. The Landauer report of October 1958, indicated that [redacted] received a dose of 35 mrem gamma and 880 beta. The monthly Landauer report for December 1958, showed that [redacted] received a dose of 475 mrem gamma and 7450 beta. Mr. Chenoweth stated that it is the consensus of the responsible Spencer personnel that [redacted] received the above doses as a result of work with the heliarc unit which is used for fusing the uranium oxide samples to test the sintering qualities of the material. [redacted] received the higher film readings on each occasion after working with the sintering process. Spencer supervision theorize that the exposures were possibly caused by low energy rays from the heliarc welder (presumably low energy x-rays). It appears doubtful that these are true beta readings. However, similar readings were not seen on the film of another man who directly assisted [redacted] in the sintering tests. This difference may be due to the position of the two film badges relative to the source of low energy rays. Procedure dictates that film badges will not be taken out of the plant area. Mr. Chenoweth stated that potential non-occupational causes of the film readings, such as medical x-ray, are being investigated. Controlled film monitoring of the heliarc is planned with assistance from Landauer in evaluating the results. Mr. Chenoweth was informed that the incident was reportable under 10 CFR 20.403(c). Mr. Chenoweth stated that the incident would be reported as required but that it is planned to include in the report as much information as the investigation of the incident reveals, within the 30 day reporting limit. Mr. Chenoweth further stated that shielding will be placed around the sintering process if the need is indicated by the controlled film monitoring.
34. The Licensee is provided with a monthly urinalysis service from the Nuclear Science and Engineering Corporation, Pittsburg, Pennsylvania. The results reported since the inspection of the program by ALOO were not found to be significantly different with an average of approximately .006 mg/l reported.

II. POSTING

35. The Licensee's facilities were found to be posted in accordance with the requirements of 10 CFR 20.203(c)(1) & (2), and (f)(1) & (2). The analytical laboratory was not posted, however, at the time of this visit posting was not required for this area. Posting requirements for the laboratory were discussed with Mr. Chenoweth as an aid in meeting future posting needs in this facility. The above posting findings may be considered as constituting adequate corrective action for the items of non-compliance with 10 CFR 20.203 as reported in Item 6, Form AEC-417 of the ALOO report dated 9-11-58.

Unirradiated Enriched Uranium Scrap Recovery

As of December 31, there were five companies licensed to reclaim unirradiated enriched uranium from scrap generated in fuel fabrication and fuel material preparation, two companies having entered the field during 1958.

Davison Chemical Co., Erwin, Tenn.
 Englehard Industrial, Inc., Baker Platinum Div., Newark, N. J.
 Mallinckrodt Chemical Works, Hematite, Mo., plant.
 Nuclear Materials and Equipment Corp., Apollo, Pa.
 Spencer Chemical Co., Kansas City, Mo.

Disposal of radioactive wastes. Applications for initial licenses to provide a commercial service in disposing of low-level radioactive wastes were received from 6 firms during 1958; 4 licenses were issued. As of December 31, 8 licenses were in effect, 6 for waste disposal in the Atlantic or Pacific Oceans, 1 for storage, and 1 for packaging and returning wastes to the Commission. No licenses have been issued authorizing commercial waste disposal service by burial in the ground.

The companies licensed to dispose of low-level wastes commercially, including two licensed for the first time, are:

American Mail Line, Seattle, Wash.
 Atomic Energy Waste Disposal Service, Oakland, Calif.
 Crossroads Marine and Salvage Co., Boston, Mass.
 Isotopes Specialties Co., Burbank, Calif.
 New England Tank Cleaning Co., Cambridge, Mass.
 Nuclear Engineering Co., Inc., San Francisco, Calif.
 Radiological Service Co., Long Island City, N. Y.
 American Electronics, Inc. (Reed-Curtis Nuclear Industrial, Inc.), Culver City, Calif.

Because varied and complex technical problems enter into disposing of radioactive waste in significant quantities, the Commission's regulation, 10 CFR 20, "Standards for Protection Against Radiation," does not spell out precise details for waste disposal. It establishes permissible concentrations considered safe in effluents to the environment; it allows only minimal quantities of "nuisance" waste to be released into sewage systems or to be buried in soil. These levels of activity are low enough to be permissible under any conceivable conditions of disposal. The regulation provides that the Commission will consider on the basis of individual cases alternative methods of disposing of such low-level wastes, and of handling higher level wastes.

An application for a license to dispose of radioactive waste in the ocean must include a detailed description of the quantities and kinds of material and the proposed manner and conditions of disposal. The applicant must give detailed information on container and pack-

will be fulfilled
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for the Commission

December that it will
 elements for research

UNITED STATES ATOMIC ENERGY COMMISSION

Annual Report to Congress

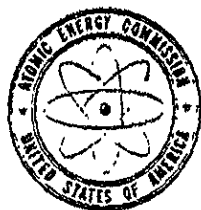
OF THE

ATOMIC ENERGY

COMMISSION

FOR

1963



January 1964

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C.

of gas centrifuges or (c) toll processing. Of the three approaches, toll processing of privately-owned fuel in Government-owned facilities offers the most promising possibility in the near future if the necessary legislation is enacted.

Uranium processing. Adequate industrial capability and competition exists today to produce uranium metal and various compounds of all assays from UF_6 .

No firms ceased operation during the past year, although the nuclear operations of Spencer Chemical at Pittsburg, Kans. were taken over by Kerr-McGee and production of uranium metal and oxide was re-established at Kerr-McGee facilities in Cushing, Okla. During the year Nuclear Metals & Equipment Corporation, Apollo, Pa. established a facility to produce highly enriched uranium metal, in addition to its previous capability of producing enriched uranium oxides and compounds, and the General Electric Company established a capability to produce enriched uranium oxide. The principal producers of uranium metal, oxides, compounds and coated particles are shown in Table 1.

TABLE 1.—PRINCIPAL PRODUCERS OF URANIUM MATERIALS

Company	Metal, oxides and compounds	Coated particles
Davison Chemical Co., Erwin, Tenn.....	X	X
Diamond Alkali Co., Painesville, Ohio.....		X
General Electric Co., San Jose, Calif.....	X	
General Dynamics Corp., San Diego, Calif.....		X
Kerr-McGee Oil Industries, Inc., Cushing, Okla.....	X	
Minnesota Mining & Mfg. Co., St. Paul, Minn.....		X
National Carbon Co., Lawrenceburg, Tenn.....		X
National Lead Co., Albany, N.Y.....	X	
Nuclear Materials & Equipment Corp., Apollo, Pa.....	X	X
United Nuclear Corp., Hematite, Mo.....	X	X

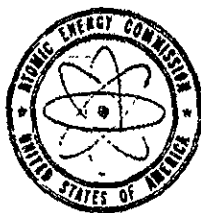
As noted in Table 2 the total quantity of uranium distributed to industry in fiscal year 1963 decreased as compared to FY 1962. The drop in demand is a reflection of the lack of orders for new private power reactor projects.

Uranium fabrication. Industrial capability exists to produce various types of fuels and shapes from metal and compounds. Competition in this highly-competitive field has been further increased in the past year with the entrance of Allis-Chalmers, Coors Porcelain and

UNITED STATES ATOMIC ENERGY COMMISSION

ATOMIC
INDUSTRIAL PROGRESS
AND
SECOND
WORLD CONFERENCE

July-December 1958



UNITED STATES GOVERNMENT PRINTING OFFICE : JANUARY 1959

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Unirradiated Enriched Uranium Scrap Recovery

As of December 31, there were five companies licensed to reclaim unirradiated enriched uranium from scrap generated in fuel fabrication and fuel material preparation, two companies having entered the field during 1958.

Davison Chemical Co., Erwin, Tenn.
 Englehard Industrial, Inc., Baker Platinum Div., Newark, N. J.
 Mallinckrodt Chemical Works, Hematite, Mo., plant.
 Nuclear Materials and Equipment Corp., Apollo, Pa.
 Spencer Chemical Co., Kansas City, Mo.

Disposal of radioactive wastes. Applications for initial licenses to provide a commercial service in disposing of low-level radioactive wastes were received from 6 firms during 1958; 4 licenses were issued. As of December 31, 8 licenses were in effect, 6 for waste disposal in the Atlantic or Pacific Oceans, 1 for storage, and 1 for packaging and returning wastes to the Commission. No licenses have been issued authorizing commercial waste disposal service by burial in the ground.

The companies licensed to dispose of low-level wastes commercially, including two licensed for the first time, are:

American Mail Line, Seattle, Wash.
 Atomic Energy Waste Disposal Service, Oakland, Calif.
 Crossroads Marine and Salvage Co., Boston, Mass.
 Isotopes Specialties Co., Burbank, Calif.
 New England Tank Cleaning Co., Cambridge, Mass.
 Nuclear Engineering Co., Inc., San Francisco, Calif.
 Radiological Service Co., Long Island City, N. Y.
 American Electronics, Inc. (Reed-Curtis Nuclear Industrial, Inc.), Culver City, Calif.

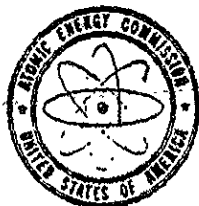
Because varied and complex technical problems enter into disposing of radioactive waste in significant quantities, the Commission's regulation, 10 CFR 20, "Standards for Protection Against Radiation," does not spell out precise details for waste disposal. It establishes permissible concentrations considered safe in effluents to the environment; it allows only minimal quantities of "nuisance" waste to be released into sewage systems or to be buried in soil. These levels of activity are low enough to be permissible under any conceivable conditions of disposal. The regulation provides that the Commission will consider on the basis of individual cases alternative methods of disposing of such low-level wastes, and of handling higher level wastes.

An application for a license to dispose of radioactive waste in the ocean must include a detailed description of the quantities and kinds of material and the proposed manner and conditions of disposal. The applicant must give detailed information on container and pack-

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ATOMIC
INDUSTRIAL PROGRESS
AND
SECOND
WORLD CONFERENCE

July-December 1958



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The other source of impact would be the uncertain value of by-product plutonium or uranium 233 if there were no statutory requirement that the Commission own and pay for the plutonium or uranium 233. A market for plutonium at \$9.50 per gram of metal, for example, corresponds to a credit of 0.5 to 1.0 mills per kilowatt-hour in typical thermal reactor cases.

To investigate this matter, a Commission staff group was assigned to discuss the subject informally with representatives of industry and the public, giving particular attention to the kind of transition measures which might be necessary to avoid too serious impact on the growing industry. During the summer and fall of 1961, sessions were held with representatives of several utilities now operating or building large nuclear power stations, and with committees of the Atomic Industrial Forum, the Edison Electric Institute, the National Association of Railroad and Utility Commissioners, the American Public Power Association, and the American Federation of Labor and Congress of Industrial Organization. The Atomic Industrial Forum and the Edison Electric Institute set up special groups for further study of, and report upon, the subject.

The comments received and the course of action to be taken are under consideration by the Commission and are being discussed with other agencies of the Government.

Uranium Scrap Recovery

Commercial recovery of uranium from unirradiated scrap produced in Commission operations reached a value of \$1,435,645 for the fiscal year ending June 30, 1961. This was more than five times the figure of \$275,000 reported for the fiscal year that ended June 30, 1960.

The program was first undertaken during fiscal year 1959 when initial orders, as of June 30, 1959, totaled \$116,000. During 1961, there were six firms bidding for this work.¹⁴

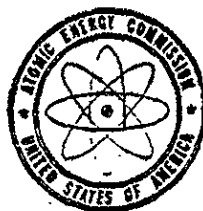
Recovery of Plutonium from Scrap

In mid-1961, the Commission received an expression of interest from the Dow Chemical Co. regarding the commercial recovery of plutonium from non-irradiated scrap generated in the Commission's production-weapons work.

¹⁴ Davison Chemical Co., Erwin, Tenn.; Englehard Industries, Inc., Baker Plutonium Division, Newark, N.J.; Nuclear Materials & Equipment Corp., Apollo, Pa.; United Nuclear Corp., Chemicals Division, Hematite, Mo.; National Lead Co., Albany, N.Y.; Spencer Chemical Co., Kansas City, Mo.

UNITED STATES ATOMIC ENERGY COMMISSION

MAJOR ACTIVITIES
IN THE
ATOMIC ENERGY
PROGRAMS



January-December 1961

UNITED STATES GOVERNMENT PRINTING OFFICE : JANUARY 1962

COMPLIANCE INSPECTION REPORT

1. Name and address of licensee Spartan Chemical Company Bryant Building Kansas City, Missouri	2. Date of inspection May 2-8, 1961
	3. Type of inspection Reinspection
	4. 10 CFR Part(s) applicable 20.40 and 70

5. License number(s), issue and expiration dates, scope and conditions			
C-4863 (20-20) (2nd reinspection)	October 12, 1960	October 31, 1961	(Renewed)
2004-154 (20A-2) (4th reinspection)	February 19, 1960	April 1, 1960	As Amended
2004-154	June 30, 1959	April 1, 1960	Amendment No. 1
2004-154	November 18, 1959	April 1, 1960	Amendment No. 2
2004-154	February 2, 1960	April 1, 1960	Amendment No. 3
2004-154	March 17, 1960	April 1, 1960	Amendment No. 4
2004-154	June 12, 1960	April 1, 1960	Amendment No. 5
2004-154	February 22, 1961	April 1, 1961	Amendment No. 6
2004-154	June 12, 1961	January 21, 1962	As Amended
2004-329 (20A-2) (2nd reinspection)	October 1, 1960	September 30, 1961	

Conditions: Item 4 (2004-154) "In the process of converting UO_2 to UO_3 or jump material to uranium oxides, using the procedures described in the applications of Sept. 15, Oct. 7 (cont'd)

6. Inspection findings (and items of noncompliance)

This licensee's program had increased in scope since the last inspection. In addition to the processing of low and high enriched uranium material, the licensee has added the factor of uranium oxides and carbides and thorium oxides and carbides. The methods and procedures used by the licensee are described in their various license applications and attachments. These include general procedures and operating rules to insure extremely safety. The licensee has installed a radiation alarm system that includes the complete layout Works plant. There were lectures to all the plant personnel on the hazards of the operation and the use and meaning of the alarm system. These lectures were on a voluntary basis to plant personnel (summer time 2/3 of the plant attended) and mandatory to the personnel in the Nuclear Fuel Section.

Records are maintained of the accountability of licensed and control material, personnel exposure, radiation surveys, airborn contamination surveys, contamination surveys, urinalysis, waste disposal, wear samples of "waste pond" and Spring River (the effluent of the waste pond goes into the Spring River). The urinalysis records indicated some high results in conjunction with some high air samples. The licensee is taking steps to correct the situation starting these high samples.

The discrepancies noted during this inspection included:

7. Date of last previous inspection March 30 and 31, 1960 April 1, 1960	8. Is "Company Confidential" information contained in this report? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (Specify page(s) and paragraph(s)) Where specified?
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BUSINESS CONFIDENTIAL
EXPIRATION

Approved by:

Arthur J. Waldman
W. J. Woodsey
Arthur J. Waldman
W. J. Woodsey
Eager T. Wansley
(Over District office)

June 27, 1961

If additional space is required for any numbered item above, the information may be continued on separate sheets, leaving sufficient margin at top for binding, identifying each sheet by number and appropriate item.

INFORMATION: AEC Public Document Room
 CONFIDENTIAL FOIA 7-6-61
 FOIA 91-334
 Hurler, John DeLay, 7/11/62

Handwritten initials

May 2-3, 1961

Item 5 continued

Conditions (contd)

and Dec. 19, 1957; April 16, May 14 and 16, June 6 and 23 and Nov. 24, 1958 and January 21, 1959; except that approval is given under the May 16, 1958 application for the blending of materials up to 2.3% enriched in U-235 in a uranium hatch size containing no more than ten kilograms of U-235 provided the blending operation is conducted in a dry non-hydrogenous atmosphere."

(SNM-154, Amendment dtd. February 2, 1960) "Your license SNM-154 amended this date to authorize chemical conversion activities described in your application of January 4, 1960."

(SNM-154, Amendment dtd. March 17, 1960) "You are authorized to transport 66 kilograms of uranium-235 in accordance with the procedures described in your TWX of March 7, 1960. This approval is granted for shipment only of the single consignment described in the March 7, 1960 TWX. Your license further amended to provide for the manufacturing of fused uranium oxide and carbide in accordance with the procedures described in your application of December 23, 1959 and February 2, 1960."

Item 6 continued

- A. Item 8 of License SNM-154, Amendments dated February 2, 1960 and March 17, 1960- in that the licensee did not follow the procedures outlined in his letters and applications as is noted in the amendments of February 2, 1960 and March 17, 1960. (See paragraph 37A of the report details).
- B. 20.201(b)-in that the licensee failed to make surveys at the property line of the Jayhawk Works to determine if airborne contamination was carried over into unrestricted areas. (See paragraph 37B of the report details).
- C. 20.103(a)-in that the licensee's employees were exposed to airborne contamination as is evidenced by the high urinalysis samples and high air samples. (See paragraph 37C of the report details).

This report does not include the criticality aspects of this licensee's Jayhawk Works.

May 2-5, 1961

Inspection History

9. An initial assist inspection of the Jayhawk Works of the Spencer Chemical Company at Pittsburg, Kansas was made on August 28, 1958 by the ALO Licensee Inspection Division. This inspection was made of the program conducted under License Numbers C-2571, R-218, and SNM-154. This report was forwarded to Oak Ridge Licensee Inspection Division on September 23, 1958 inasmuch as the licensee's home office is located in their geographical area.

An initial inspection of the licensee's Jayhawk Works at Pittsburg, Kansas, License numbers C-2571, R-218 and SNM-154 was conducted on January 29, 1959 by the Oak Ridge Licensee Inspection Division. The ALO assist inspection dated September 11, 1958 was forwarded to DLK with their report dated March 19, 1959 and memorandum dated March 23, 1959. We have no correspondence in the AL Compliance Division files with regard to action taken by DLK on this inspection.

An announced reinspection of the facilities of the Jayhawk Works of the Spencer Chemical Company at Pittsburg, Kansas was conducted on March 30 and 31, 1960. This report was forwarded to Washington on April 26, 1960. A letter of alleged violation was forwarded to the licensee by DLK on October 12, 1960. This letter cited the licensee for Sections 30.203 (f)(1), (f)(2) and (f)(4), "Caution signs, labels and signals." The letter further indicated that this discrepancy "will be reviewed during the next inspection of your facilities."

General

10. An announced reinspection of the facilities of the licensee's Jayhawk Works was conducted by AL Compliance Division on May 2 through 5, 1961. This inspection was made to determine the extent of compliance by the licensee with the applicable sections of 10CFR 20.40 and 70 and with the conditions of their license numbers C-4353, SNM-154 and SNM-329.

An inspection of the criticality aspect of this installation was not conducted at this time.

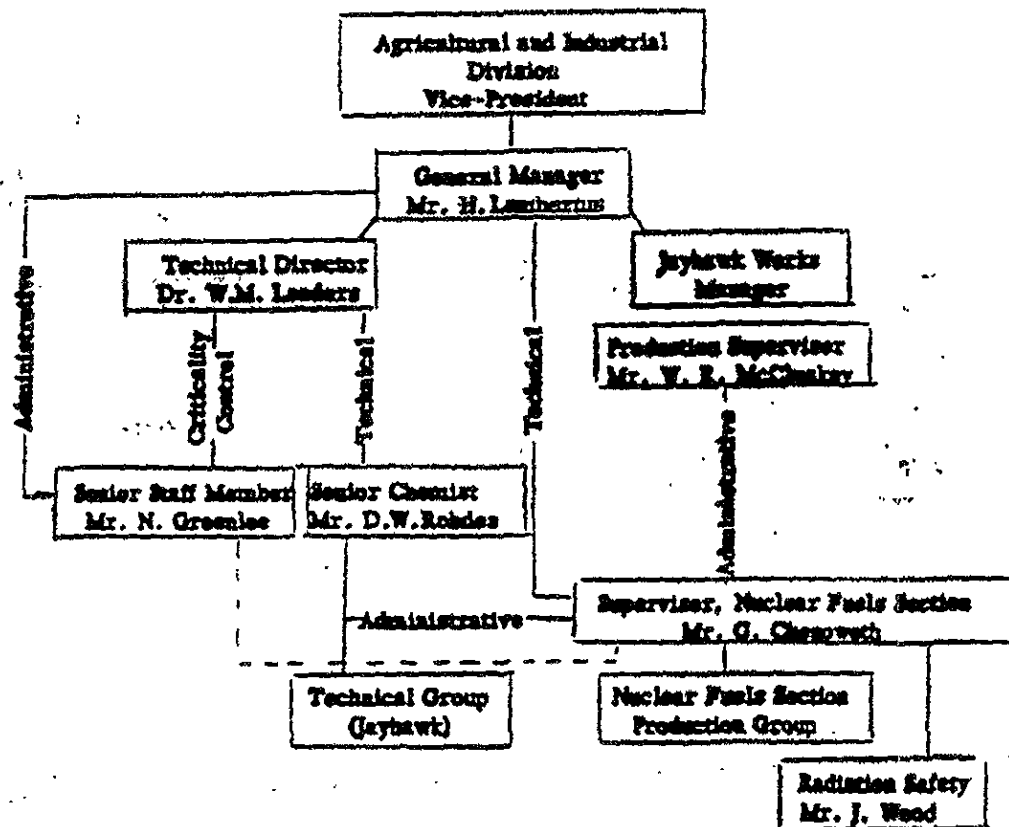
The inspector, Mr. Arthur J. Whitman, was accompanied during this inspection by Mr. V.C. Vaspe, Director, AL Compliance Division, and Mr. G. Hanson, Mr. J. L. Mayes and Mr. S. Reno, all of the Kansas State Board of Health. Mr. Mayes and Mr. Reno were there the afternoon of May 2, 1961 and the morning of May 3, 1961.

Interviewed during the inspection were Mr. George Chenoweth, Superintendent of the Nuclear Fuels Section; Mr. Ralph Jopp, Assistant Superintendent of the Nuclear Fuels Section; Mr. James Wood, Safety Analyst for the Nuclear Fuels Section; Mr. Donald Kahdes, Senior Chemist and Technical Supervisor; Mr. Norman Greenlee, Senior Staff Member having control of all written instructions and license functions regarding health and safety including all criticality aspects; and Dr. W. M. Leaders, Technical Director.

Organization and Program

11. The Spencer Chemical Company has its general offices in Kansas City, Missouri. The Jayhawk Works is one of six facilities located throughout the country. The Jayhawk Works is located 25 miles from Pittsburg, Kansas and about 16 miles west of Joplin, Missouri. There has been one change in organization since the last inspection, in that the Nuclear Fuels Section has been put under the Agricultural and Industrial Division. The organizational structure at the time of this reinspection is set out on the following page.

May 2-5, 1961



Mr. G. Chenoweth is assigned direct responsibility for the health and safety of all personnel and facilities of the Nuclear Fuels Section located at the Jayhawk Works. In this capacity, he has delegated the radiation safety officer duties to Mr. J. Wood. Mr. Wood spends about 10% of his time as safety analyst for the Nuclear Fuels Section. His main job is nuclear material accountability.

Mr. Greenlee works out of the Kansas City office. He answers directly to the Technical Director, Dr. Leaders, for control and approval of all matters relating to criticality and to the General Manager, Mr. Lambertus, for all other management matters. He acts in a consulting capacity to Mr. Chenoweth and Mr. Wood on licensing and written instruction regarding health and safety including criticality aspects.

Mr. D. Rhodes is the technical group supervisor at the Jayhawk Works. He is technically responsible to the Technical Director and administratively responsible to Mr. Chenoweth. He also acts as technical consultant to Mr. Chenoweth and Mr. Wood. He reports and advises on any unsafe or unhealthy situation that he may observe.

The only facilities in use at the Jayhawk Works at the present time are the Technical Area Building #702, Plant #2, a store house next to Plant #2 and the storage vault in Building #703. Plant #1, the original pilot plant and processing plant has been inactivated and put into "mothballs".

Plant #2 is used to process depleted materials having less than 5% enrichment. The feed for this plant may be ceramic UF_6 , scrap metal, yellow cake, etc. The final product is either normal or enriched (less than 5%) uranium-oxide. This plant has been used ten months of the last year.

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Building #702 otherwise known as Technical Operations Building, is used to process material for enrichments greater than 5% although material for experimental work or new processes may utilize material with enrichment less than 5%. This area is used to produce fused uranium oxides and carbides, uranium oxides, uranium fluoride, uranium-fluoride compounds and other enriched uranium. This process area is manned for one or two shifts a day depending on the workload and customer orders. If the workload is heavy, this area as well as Plant #2 is worked on a rotating-three-shift basis.

The majority of source and special nuclear material processed by this licensee is accountable to the AEC and is held under accountability station SCC which is administered by the AEC's San Francisco office.

Facilities, Instrumentation and Inventory

12. The operations of the Nuclear Fuels Section were conducted in two areas. These operations using depleted normal and enriched uranium up to 5% enrichment are conducted in Building #1011. This building is referred to as Plant #2.

Operations involving the use of materials having enrichment of greater than 5% are conducted in Building #702. This is the Technical Operations Building and is referred to as the "T"-House. This area is also used for experimental and developmental work. This area was formerly referred to as the Research and Developmental Laboratory.

13. Plant #2 is constructed of steel framework covered with transite siding and is approximately 110 feet by 50 feet. The maximum height within the building is 20 feet. The processing area is the east half of the building on three levels. The wall behind the processing area is covered with stainless steel sheeting and stainless steel drippans are under practically all process equipment and solution tanks. There are three separate air systems for this building. Normal air is vented through two blowers which exhaust the building at a rate of 2000 cfm by means of industrial belt-driven 48-inch fans. Process air is exhausted through a dustcap filter 20-M-30 at a rate of 2500 cfm. The UF₆ process area is exhausted through a scrubbing system at a rate of 3500 cfm.

Although actual measurements of the various components were not taken, the general layout and configurations of the process equipment followed that described in the application dated June 22, 1959 and drawing Number 1-1600-4 of License No. 3084-K39. The general housekeeping noted during this inspection was excellent in that there was no accumulation of superfluous equipment and everything was in "its" place. It should be noted that the plant was not in operation during the week of the inspection inasmuch as the SAN office was conducting an AEC audit and inventory. The micro-mill blender and weighing room within this plant are all separately enclosed areas. The air from these rooms is vented to the general atmosphere of the building through absolute filters. The blender is purged with nitrogen before each operation to insure a dry atmosphere.

The storage area for Plant #2 is along the northwest and southwest quadrant of the building on the ground floor. These areas were clearly defined by signs and barricades. There was a small storage building adjacent to Plant #2 that is used for preparation of material for shipping and storage of material ready for shipping. This material may be enriched, normal or depleted uranium.

Since the last inspection, a "hot" and cold change area and shower room and lunch area have been added in another building across the road from Plant #2 and the small storage building (see Appendix A).

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14. Building #702 (Technical Operations Building) referred to as the "T" House is to the north of the main office building. This is a wood-frame building covered with a wood siding. The building is approximately 260 feet by 50 feet, running east and west. The entrance to the building is on the east side. This building is in three "sections". As you enter, the first section is the office area and change area and the second section is the lunch area. The third section is the process section which is about 2/3 the length of the building. The lunch room is separated from the other areas by double swinging doors (see Appendix B). This was the Research and Development Building but as the production workload increased, more of the building was devoted to production than experimental. At the present time, the building is used for both production and developmental purposes. At the extreme east end (Room 14) is the pilot plant and the production facility for UO_2 and UF_4 . The UF_6 is fed to the "reactor" from an outside feed installation and "bath". As we go from east to west from Room 14, there are various processing rooms and supporting facilities as noted in Appendix B.

The ventilation in the general areas and Hi Velocity Hoods of this building is serviced by four Binks fans of 2500 cfm each and one Buffalo fan of 3500 cfm. These fans each have separate stacks and each is hooded. These exhaust systems are not filtered. The process hood and furnaces are exhausted by Hazzell pressure blowers having a rating of 800 cfm and pulling at least 500 cfm each. These are behind absolute filters each exhausting through its own stack.

There were some deviations from the modifications noted in the licensee's letter to DLK dated January 4, 1960. For instance, Item 2 of safety design considerations states that the edge to edge spacing of the processing vessels in the reaction hood will not be less than 24 inches. Inasmuch as these were not accessible for measurement, on a sight measurement, they seemed to be closer to 18 inches than 24 inches. Item 7 of this section indicates the hoods will have slotted bases to prevent accumulation of more than 1/2 inch thick slab of material in case of an equipment failure. These had doors instead of slots. Item 1 of "Material Movement and Control" indicates that there will be 22 feet between the primary reaction hood and the unloading and packaging hood. These hoods were in conjunction with each other. Items 5 and 6 of this section were not adhered to. These will be discussed further in the report in the paragraph on "Items of Noncompliance."

Materials in various stages of processing from feed to final product were stored in various areas of the "T" House. These areas are noted in Appendix B.

15. The vault in Building #703 was also used to store source and special nuclear material. Mr. Chenoweth and Mr. Rhodes were the only two persons having the combination to this vault thereby confining entry to the Nuclear Fuels Section only. This area was marked as to where the "bird-cages" were to be placed so that they would be in critically safe positions.

16. The licensee had three Sears-Roebuck portable survey meters Model PR-7. These had internal calibration sources but were calibrated against a radium standard source on a quarterly basis. These instruments were distributed in each of the working areas and in the counting room of the main office building. The instruments were calibrated and operable at the time of this inspection. The licensee's counting instrumentation is a Nuclear Measurements Corporation Model PC-3A alpha/beta-gamma gas flow proportional counter in conjunction with an NMC Model PHA-ICA pulse height analyzer and NMC "counting pig" (other than that incorporated in the PC-3A). These instruments were also calibrated and operable. There was also one Nuclear-Chicago portable survey meter, Model 2612, in good working order and calibrated. In addition to the above instrumentation, the licensee has a plant-wide automatic alarm system controlled by five Nuclear Measurements Corporation, Model GA-2 detectors. The detectors have a range of 0 to 50 mr and are set to alarm at 6 mr/hr.

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17. The licensee's inventory at the time of the inspection is noted below:

	Depleted/gms	Normal/gms	<75%/gms	>75%/gms	Thorium/gms
Station Material		1,989,201	2,054,613.81	200,153.19	
Licensee Material (not owned)			8,042,321.249		
Licensee Material (owned)	3,816,043.398	1,573,979.979	8,069,238.11		111,764.376

The station material figures were taken from the inventory records compiled by the S. S. Materials team from the San Francisco office of AEC. The figures for the licensee material (not owned) were compiled by the inspector from the licensee figures. The licensee (owned) material (depleted, normal and thorium) were compiled by the inspector from data furnished by the licensee. The licensee owned material (<75%) was a combination of the reports submitted to the AEC by the licensee and his receipt and disposal records. A physical inventory to reconcile the tabulated book inventory figures was not made by the inspector. The inventory and the licensee's records indicated that they did not exceed the licensed amounts.

Radiological Safety and Compliance

18. The facilities of the Jayhawk Works of the Spencer Chemical Company include processing plants for recovery of depleted, normal and/or enriched uranium. Included with the processing equipment are experimental and developmental facilities and storage facilities. Included in the installation are the equipment used for the fusing of uranium oxides and carbides.

The feed for this processing may be UF_6 , scrap metal, green salts, yellow cake and other uranium bearing material from which the uranium is to be recovered or processed for fusing.

In Plant #2 which is used for material of less than 5% enrichment, the general process may be described as follows: the feed may be hydrolyzed or dissolved (depending on what the feed is); acid is added until the desired concentration is achieved; the product then goes to the rich acid storage tanks; from these storage tanks the rich acid product is pumped to counter-current pulse extraction columns; at this point, the rich organic phase from the extractor overflows to the scrubber column and the raffinate flows to the waste storage tanks (the waste may be disposed of or recycled depending on the uranium concentration). After treatment in the scrub column, the rich organics are recycled to the extraction column and then it flows to the stripper column where the uranium is stripped from the rest of the compound. The rich aqueous phase is then fed to an evaporator to concentrate it and then precipitates it. The product is best treated to become uranium oxide. The UO_2 is discharged through a mill to a blender to the final shipping containers.

The aforementioned process is extremely simplified. (For more complete details, refer to the "Application for Spencer Nuclear Material License" dated June 22, 1959, Docket #70-340).

The fusion processes and recovery processes of material having enrichments up to 93% were carried out in the "T" House. The recovery process from low enrichment UF_6 was done in Room 14. The UF_6 is made ready in a process "house" outside the "T" House and fed to the "reactor" where the final product (UF_4 or UO_2) is tapped off. This reactor was being modified at the time of the inspection; therefore, this equipment was not in use.

The fusion process was done in Rooms 10 and 16 of the "T" House. The process proper is carried out in a "reactor" insulated with a non-hydrogenous and non-carbon containing material. The off-gas of the "reactor" in Room 10 is vented to the atmosphere through a cyclone separator.

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a stainless steel micrometallic filter and two absolute filters (back to back) in series. This "reactor" and filter system is enclosed in a hood which is exhausted to the atmosphere through a Cambridge absolute filter at a rate of approximately 500 cfm.

The fusion process in Room 16 is similar to that in Room 10 except for an intermediate filter and the hood is not filtered. The off-gas of the "reactor" in Room 16 is vented to the atmosphere through a cyclone filter and separator, a paper filter (vacuum cleaner bag) and two absolute filters (back to back). The hood enclosing this reactor system is exhausted directly to the atmosphere (not filtered) at a rate of approximately 2500 cfm.

X The 93% enriched material was processed in a special area ("T" zone). An oversimplified version of this process is as follows: the feed product (UF_6) will be converted to either ammonium diuranate, one of the oxides of uranium or insoluble UF_4 . The dissolvable uranium will be removed from the reactant stream by means of a filter and the unused reactants will be returned to the reaction zone. The uranium containing material will be treated in a high temperature furnace for conversion to the desired product. The final product is packaged in a hood.

The above process descriptions are oversimplified and more detail may be found in the licensee's letters to DLR dated December 28, 1959, January 4, 1960 and February 2, 1960.

19. The licensee has written administrative procedures which are applicable to his nuclear operations at the Jayhawk Works. These are entitled, "Health and Safety in Handling Uranium", file #99801 dated February 19, 1956 and "Criticality Alarm Manual" dated December 15, 1960.

The manual entitled, "Health and Safety in Handling Uranium" is divided into two parts: Part I includes: Fundamentals of Radioactivity, Biological Effects of Radiation, Radioactive Decay of Uranium, Units of Radioactivity and Dose, External Radiation Hazard from Uranium, Internal Hazards due to Uranium. Part II includes: Protection Against External Radiation from Uranium, Protection Against Internal Hazards of Uranium, General Safety Provisions, Housekeeping, Waste Disposal, Records. Also included are abbreviations and symbols, definitions and references. The table of contents in the "Criticality Alarm Manual" includes the following main chapters: Fundamentals of Radioactivity, Criticality Control Factors, Criticality Alarm Procedures, Fire Fighting Guide, Appendices and References.

Lectures on both these manuals have been given to the employees of the Nuclear Fuels Section and lectures on the "Criticality Alarm Manual" have been given to all employees of the Jayhawk Works. The latter was voluntary and better than 80% of the plant personnel attended. These manuals as well as Parts 10CFR20, 40 and 70 are available to all members of the Nuclear Fuels Section.

Safety memoranda is issued periodically by Mr. Chaseweth to all supervisors. These are posted so they may be seen by all involved persons. Supervisors hold monthly safety meetings before shift changes and the personnel are paid for attending these meetings. These meetings include discussion of nuclear safety. Thermo-fax copies of all personnel monitoring results are posted for the personnel to see.

20. The licensee uses film badges and urinalysis for personnel monitoring. The licensee uses R. S. Landaur Jr., and Company film badge service on a monthly basis for between 30 and 60 people, dependant upon the workload. The licensee uses a beta-gamma badge with a strip of indium foil across the top edge. The badges are now being kept in plastic bags while they are used to keep them from becoming contaminated. This is a result of the film badge vendor indicating that better than 50% of the 1960 badges were contaminated.

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21. The urinalysis program was on a monthly basis for those persons working in the Nuclear Fuels Section until about six weeks before this inspection. About that time, the licensee had trouble processing the 93% material. At this time, the frequency was changed to two weeks rather than monthly. The urinalysis service is provided by the National Spectrographic Laboratories, Hialeah, Florida. This vendor uses the fluorimetric method to determine total uranium to a sensitivity of 1×10^{-10} grams (0.0001ppm). The counting is done on an alpha proportional gas counter (Appendix C). The licensee has set an upper limit of 90 d/m/l as the "action" limit for enriched uranium and 50 ng/l for "action" limit on normal uranium. If a urinalysis result of greater than the "action" limit is returned, the person having this result is withdrawn from the product area until the succeeding urinalysis results drop below these "action" limits. This action limit is based on information from Chicago Operations report 4COO-212 entitled, "Health and Safety Consideration for Uranium Fuel Fabrication Facilities." This report is dated August 1, 1958.

22. Air sampling meter radiation surveys and smear (contamination) surveys are conducted by the licensee to determine compliance with 10CFR20.201, 20.103 and 20.105(b). Mr. Wood conducts the air sampling and contamination survey programs and reports his findings to Mr. Chenoweth and the senior supervisor. Mr. Chenoweth stated that the action taken on high air samples depends on the circumstances (i.e; the operation, sample result, working conditions, etc.) but the supervisors are under pressure to correct or lower the values. The records substantiate that unusual conditions are investigated and rectified as soon as they are discovered.

23. The air sampling program is carried on using a Model TP1A-TFA#41 Staplex sampler. The average sample is a half-hour sample at approximately 18 cfm and some samples run as long as one and one-half hours, depending on the operation. The licensee also uses a Gilman "Bantam-Air Sampler", Model #19002 with membrane #AM-4. These samples are 24-hour samples at 12 to 15 l/m.

Air samples are taken in all parts of the "T" House and Plant #2 including the outside environs.
The operations during which samples are collected include: blending, transfer of material (between containers), loading (in shipping containers) within the hood, fusing of uranium and thorium compounds, cleaning of the mills and other equipment, crushing-grinding-screening, dissolution (fumes). There is no set frequency for the air sampling of the various operations. For instance, the blending operation in Plant #2 may be 30 minutes in 24 hours or about once a day, whereas the blending operations in the "T" building are about 10 minute durations about five or six times a day. Other operating times may be as follows: cleaning at the end of a particular enrichment processing is approximately four hours in either plant. This is done on an average of once a month. Unloading the blender in Plant #2 may be a 30-minute-once a day operation. In the "T" House the unloading operation is five minutes per bottle on an average of once a day. Fusing is done approximately ten times per week, dissolution about once a month (ten minutes), grinding about once a day (five minutes), and milling and screening about four hours once a day.

These air samples were usually taken as breathing zone samples (Bantam sampler) or in the general area (Staplex sampler). Background samples were taken in non "work" areas such as the office, lunch room, change room or outside the building (away from the exhaust ducts or in some cases at the exhaust ducts).

The air samples are normally counted the following day unless immediate information is required. The 24-hour samples are counted when they are pulled. The samples are counted, for alpha and beta-gamma, on a Nuclear Measurements, Corporation, Model PC3-A, gas flow proportional counter (P-10, argon-methane, gas).

Corrective measures taken when high results are discovered include re-sealing of units to keep the dust confined to the interior of the unit, increasing the exhaust air flow of various hoods and "dry box" operations, re-design of faulty equipment, etc.

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The stack discharge of the various areas was also sampled. The general air that is discharged by fans (not process air) was sampled and measured several times. [These samples averaged less than the maximum permissible limit established in Part 20 (7×10^{-11} $\mu\text{c}/\text{ml}$)] Samples of the process air discharge was about 0.3 grams of uranium in 14 hours of blower operation during the production of 500 pounds of 2.5% UO_2 . This calculates to be 3×10^{-10} $\mu\text{c}/\text{ml}$. A second test of the same area over 19 hours of operation yielded 0.115 grams of uranium. This calculated to be approximately 7.4×10^{-11} $\mu\text{c}/\text{ml}$. Because of the moisture in the above noted discharge, a special sampler was devised to trap the uranium particles. Essentially all uranium is in particulate form and was trapped by the frit (sub-micron filter) within the sampler. This particular exhaust was all funneled through this special sampler. This operation is a continuous operation 24 hours a day, seven days a week.

No measurement has been made of the effluent of the UF_6 areas. This air is processed through a scrubber before it is discharged to the room atmosphere. The air of this hydrolysis room is vented to the outside atmosphere through a high capacity blower (3500 cfm). Air samples taken in the room atmosphere indicated average results of [less than 10^{-12} $\mu\text{c}/\text{ml}$.]

24. The contamination surveys are made on a weekly basis after receipt of the counting equipment at the Jayhawk Works about January 24, 1961. These surveys are conducted in both Plant #2 and the "T" House. All areas including "work" areas, packaging, shipping, storage, change, lunch and office areas were included in the surveys. Although there is continuous cleaning in the various areas, the trend of the results indicate that in the "T" House, contamination is tracked from the "work" areas to the "non-work" areas. Contamination surveys of the shipping containers are made before and after filling and before shipping.

25. Radiation monitoring (beta-gamma) is conducted by the licensee to determine compliance with 20.101, 105 and 203. This monitoring is done with a Sears-Roebuck Tower survey meter Model Ph-7. This instrument is calibrated weekly with a check source and yearly against a standard radium source. These surveys are conducted throughout the "T" House, Plant #2, all storage areas and supporting facilities.

26. The licensee processes material for the AEC (accountability station SOC), licensee material (not owned) for organizations like General Electric, Westinghouse, Aerojet, Atomic International, etc., licensee material (Spencer owned) for resale to other licensees. This material is controlled through an accountability system. The accountability officer responsible for the receipt, use and disposition of the material is Mr. Wood. The licensee has records for each contractor, supplier and licensee which are involved in their program.

27. Liquid waste is collected in hold-up tanks before release into the storm sewer. The storm sewer enters a pond referred to as Spencer Lake. This pond empties into the Spring River. This complete system up to the point that the pond discharges into the river is considered as a restricted area and is within the licensee's fenced area. The average daily discharge to the pond is approximately 3000 gallons of .18 grams per gallon solution.

The daily effluent from the pond to the river is 30×10^6 gallons and the pond capacity is 350×10^6 gallons. Therefore, the concentration at the point of discharge to the river calculates to be 1.6×10^{-9} $\mu\text{c}/\text{ml}$ which is less than the mpc in Part 20 (5×10^{-4} $\mu\text{c}/\text{ml}$).

Weekly water samples are collected one mile above the effluent discharge (Spring River at Spencer Park), at the discharge point (Spencer Lake at the overflow) and two miles below the discharge point (Spring River and Hwy 66). A silt sample of Spencer Lake was also collected. These samples were processed and counted by the Kansas State Board of Health. These samples results also indicate less than mpc as per 10CFR20.

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28. The areas and containers were posted and/or labeled to conform with 10CFR20.203 (b), (c)(2), (d)(2) and (f)(4).

29. With the exception of the conditions noted in this report in the paragraph "Items of Non-compliance", the licensee was adhering to those conditions stipulated in his licenses.

Records

30. The film badge results for 1960 revealed that the maximum beta result was 830 mr/month and the maximum gamma result was 960 mr/month. The average beta was 27 mr/month and the average gamma was 52 mr/month.

The film badge results for the period January, 1961 through March 1961 were also reviewed. The maximum noted during this period was 580 mr/month of gamma and 312 mr/month of beta. The average results were approximately 30 mr/month beta and approximately 40 mr/month gamma. The quarterly results for beta-gamma was 1070 mrem and the average quarterly result was approximately 100 mrem.

According to the vendor, R. S. Landsur, Jr. and Company, more than 50% of the badges processed showed signs of contamination. To avoid this condition in the future the licensee has devised a small plastic bag in which the badge is kept while in the licensee's possession. These records do not indicate any overexposure.

31. The air sample results dating from January 7, 1960 through April 28, 1961 were reviewed by the inspector. These were the results obtained from samples taken in Plant #2 and the "T" House (Building #702) and related areas. These results indicated that approximately 34 samples of all the samples taken between October 7, 1960 and April 28, 1961 exceeded the mpt of 10CFR 20 (7×10^{-11} $\mu\text{c}/\text{ml}$). The maximum result was obtained from sample number 2-4-21 on February 22, 1961. This result was 4.3×10^{-8} $\mu\text{c}/\text{ml}$ and it was obtained while working with 93% enriched material in a hood. This condition was corrected by increasing the face velocity of the hood from 100 linear feet per minute to 200 linear feet per minute.

The results of the samples taken in Building 701 dated from January 6, 1960 through April 3, 1961 indicated a maximum result of 3.7×12^{-9} $\mu\text{c}/\text{ml}$. This was obtained during a bleeding operation. This building is no longer being used.

Samples of the process air exhaust in Plant #2 calculated to be 3×10^{-10} $\mu\text{c}/\text{ml}$ for 16 hours of operation and 7.4×10^{-11} $\mu\text{c}/\text{ml}$ for 19 hours of operation.

32. The urinalysis result records for 1960 indicate that two men exceeded the 90 d/m/l "action" limit set by the licensee. The result for the September 1960 test indicated that Mr. had a reading of 94 d/m/l. He was removed from the product area on October 11, 1960. His test for October 1960 indicated a reading of 48 d/m/l and he was returned to work in the product area. The September 1960 test for Mr. indicated 140 d/m/l. This employee was transferred and subsequent test for September, 1960 and October 1960 indicates 60 d/m/l and 40 d/m/l respectively. was not returned to a product area.

The records for 1961 from January through the date of inspection indicate that four men had exceeded the 90 d/m/l "action" limit. The result of Mr. test on February 3, 1961 indicated 2896 d/m/l. This man has been removed from the product area and bi-weekly

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urinalysis tests made. The results of the subsequent bi-weekly tests are: February 15, 1961, 426 d/m/l; February 23, 1961, 218 d/m/l; March 1, 1961, 149 d/m/l; March 14, 1961, 107 d/m/l; March 27, 1961, 145 d/m/l; April 3, 1961, 132 d/m/l; April 17, 1961, 58 d/m/l; and April 24, 1961, 151 d/m/l. Mr. [redacted] has not yet been returned to work with uranium. [redacted] urinalysis for March 1, 1961 indicated 93.4 d/m/l. His subsequent test on March 15, 1961 indicated a result of 59.5 d/m/l. The April 20, 1961 urinalysis for Mr. [redacted] indicated 133.8 d/m/l. He was removed from the uranium work area. The April 24, 1961 urinalysis report indicated that Mr. [redacted] had a result of 143 d/m/l. He also was removed from working with uranium.

A file memorandum written by Mr. Casowich and included as Appendix D of this report indicates the action taken to decrease the potential exposures.

When it was discovered that Messrs. [redacted] had high urinalysis results, further air samples were made. These indicated that the bleeding machine was leaking dust into the general atmosphere due to faulty seals. This was in the process of rectification at the time of this inspection.

33. The results of the contamination surveys dating from January 24, 1961 to April 25, 1961 were reviewed. These results indicated a maximum of 6250 d/m/100 cm² (beta-gamma) and a minimum of 3.8 d/m (beta-gamma). An average result is less than 1000 d/m/100 cm². These results are a composite of all the areas surveyed in this manner. The various areas are cleaned daily by wet-mop and vacuum to keep the contamination at a low level.

34. The results of the radiation surveys dating from January 8, 1960 through March 2, 1961 indicates a maximum of 0.6 mr/hr, a minimum of 0.02 mr/hr (background) and an average of 0.06 mr/hr. These were beta-gamma surveys conducted by the licensee of the Plant #2 and the "T" House areas.

35. The waste disposal log from January 1, 1960 through March 23, 1961 indicated a total of 400,506 gallons of waste having approximately 21,206 grams of uranium (ranging from depleted to 93% enrichment) disposed of through the waste disposal process at this installation.

36. The records also indicated that 244 water and silt samples have been taken. These records indicate the following maximum, minimum, and average results.

MAXIMUM

Location	(1) Filterable (2) Non-filterable	Activity ¹ $\mu\text{c}/\text{cm}^2$		Activity ¹ $\mu\text{c}/\text{gm}^2$	
		Alpha	Beta	Alpha	Beta
Spring River at Spencer Park (1 mi. above effluent discharge)	(1) Filterable	3.8 ± 2.4	23 ± 14.0		
	(2) Non-filterable	1.4 ± 2.4	32 ± 25		
Spring River at Hiway 66 (2 mi. below effluent discharge)	(1) Filterable	18 ± 1.3	15 ± 8.8		
	(2) Non-filterable	0.6 ± 1.4	17.0 ± 17		
Spencer Lake at Overflow (at effluent discharge)	(1) Filterable	1.5 ± 1.4	21 ± 14		
	(2) Non-filterable	6.6 ± 12	25 ± 37		
Silt from Spencer Lake				21 ± 6.4	93 ± 33

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Location	MINIMUM		Activity ¹ $\mu\text{C}/\text{g}^2$		Activity ¹ $\mu\text{C}/\text{g}^2$	
	(1)Filterable (2)Non-filterable		Alpha ³	Beta ³	Alpha ³	Beta ³
Spring River at Spencer Park (1 mi. above effluent discharge)	(1)Filterable (2)Non-filterable		background ⁴ background ⁴	background ⁴ background ⁴		
Spring River at Hiway 66 (2 mi. below effluent discharge)	(1)Filterable (2)Non-filterable		background ⁴ background ⁴	background ⁴ background ⁴		
Spencer Lake at Overflow (at effluent discharge)	(1)Filterable (2)Non-filterable		background ⁴ background ⁴	background ⁴ background ⁴		
Silt from Spencer Lake					0.8 ± 5.2	back-ground ⁴
AVERAGE						
Spring River at Spencer Park (1 mi. above effluent discharge)	(1)Filterable (2)Non-filterable		6.7 ± 5.6 0.44 ± 1.1	5.8 ± 6.1 7.0 ± 10.6		
Spring River at Hiway 66 (2 mi. below effluent discharge)	(1)Filterable (2)Non-filterable		2.0 ± 0.6 0.6 ± 1.3	6.6 ± 5.4 3.7 ± 6.6		
Spencer Lake at Overflow (at effluent discharge)	(1)Filterable (2)Non-filterable		0.6 ± 0.7 1.3 ± 2.0	6.9 ± 8.0 4.9 ± 11.7		
Silt from Spencer Lake					13.65 ± 7.5	39.43 ± 2

- 1-Activity: ± counting error at 95% confidence level
 2- $\mu\text{C}/\text{l} \times 10^{-9} = \mu\text{C}/\text{ml}$
 3-based on natural uranium
 4-background not greater than instrument background

The above tabulation results indicate that the ABC standard in 10CFR20 was not exceeded.

Items of Noncompliance

37. The following items of noncompliance were noted:

- A. Item 8 of License SNM-154, Amendments dated February 2, 1960 and March 17, 1960- in that the procedures described in the amendments were not adhered to by the licensee.

1). Item 8 of the license states "In process of converting UF_6 to UO_2 or scrap metal to nitrate or oxide, using the procedures described in the applications of September 15, October 7 and December 19, 1957; April 16, May 14 and 16, June 6 and 23 and November 24, 1958 and January 21, 1959; except that approval is given under the May 16, 1958 application for the blending of materials up to 2.3% enriched in U-235 in a maximum batch size containing no more than ten kilograms of U-235 provided the blending operation is conducted in a dry non-hydrogenous atmosphere."

2). The amendment dated February 2, 1960 states "Your license SNM-154 amended this date to authorize chemical conversion activities described in your application of January 4, 1960." Page 2, Item 1 under the paragraph headed "Material Movement Control" states "The entire production operation will be carried out in (a) primary

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reaction hood, (b) conversion furnaces, (c) unloading and packaging hood. (The hoods are spaced 22 feet apart and the furnaces located between the two hoods.)

During this reinspection, it was noted that the packaging and unloading hood was an integral part of the primary hood with no space between them; therefore, the furnaces could not be located between the two hoods (See appendix B - "T" room of Building #702).

Item 5 of the same paragraph on Page 3 of this application states "The trays are stacked one above the other in the reactor box and their combined cross sectional area is less than that of a 5 inch diameter pipe. They are loaded into the furnace box within the hood and the box securely closed prior to removal to prevent airborne dust contamination."

This procedure is not followed. According to the demonstration of this part of the procedures, the trays are loaded within the hood but they are then removed from the hood to be put into the furnace box. Therefore, (the furnace box is not loaded within) the hood as is stated in the licensee's application.

The amendment dated March 17, 1960 states, "..... Your license is further amended to provide for the manufacturing of fused uranium oxide and carbide in accordance with the procedures described in your application of December 28, 1959 and February 2, 1960."

Item 4, paragraph (A (Equipment) of the application dated December 28, 1959 states) "The reactor and all auxiliary equipment are located in a hood for position dust control. The hood is exhausted through suitable filters to remove and recover all airborne uranium dust from the exhaust air."

During this inspection it was noted that although the reactor and auxiliary equipment in Room 16 of Building 702 were hooded, the hood exhaust is not filtered and exhausts direct to the atmosphere. This is contrary to Item 4 as noted above.

(Paragraph 2(b) of the application letter dated February 2, 1960 states) "The product from any one fusion charge will be treated as a separate batch and (stored under an inert atmosphere) at least two feet from any other uranium container."

Mr. Chenoweth stated that the (fused UO_2 is not kept in an inert atmosphere) Only the carbides are kept under an inert atmosphere. This is contrary to the procedure noted in paragraph 2(b) quoted above.

B. 20.201(b)- in that the licensee did not make surveys at the property line (restricted areas) to determine if he was emitting airborne contamination in excess of the limits established for unrestricted areas (3×10^{-12} $\mu\text{c}/\text{ml}$).

A sample of process air discharge from Plant #2 indicated approximately 0.3 grams of uranium in 14 hours of blower operations during the production of 500 pounds of 2.5% UO_2 . This calculates to 3×10^{-10} $\mu\text{c}/\text{ml}$ exhausted during this 14-hour period into a restricted area. This amount is dispersed as it leaves the exhaust stack and is carried over the company property line to unrestricted areas. The licensee had made no survey or evaluation of how much, if any, of this airborne material was at this point. It should be noted that the furnace for this particular process is in operation 24 hours a day, seven days a week.

Also, no evaluation or surveys were made during the washing of potentially contaminated protective clothing.

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C. 20.103(a)-in that the licensee has exposed personnel to airborne concentrations in excess of those stipulated in this section of the regulations (3×10^{-12} $\mu\text{c}/\text{ml}$ U-238 enriched to U-235).

During various operations (crushing, grinding, blending, dissolution) carried on in the "T" House (Building #702) high air samples were noted. These air samples were taken during operations when personnel were working in the immediate vicinity. It is noted that these air samples were taken after the urinalysis results indicated that these personnel involved did inhale some uranium.

The February 1961 urinalysis result for Mr. [redacted] indicated 2896 d/m/l on February 23, 1961. Mr. [redacted] was removed from the area on February 26, 1961. The air samples taken during February 1961 indicated Sample #2-2-1 was 5.4×10^{-9} $\mu\text{c}/\text{ml}$ and Sample #2-2-2 was 2.2×10^{-9} $\mu\text{c}/\text{ml}$ on February 9, 1961 during dissolution of 93% scrap with HNO_3 . Six other samples taken in the process area of the "T" House during February 1961 indicated an average of 3.6×10^{-10} $\mu\text{c}/\text{ml}$, and two samples averaged 4×10^{-8} $\mu\text{c}/\text{ml}$. These samples were taken between February 9, 1961 and February 22, 1961.

The urinalysis results for Mr. [redacted] indicated 93.4 d/m/l for March 1, 1961 and 59.5 d/m/l March 16, 1961. The air sample results for March 1961 indicated ten high air samples. Five air samples averaged 3.7×10^{-9} $\mu\text{c}/\text{ml}$ and five samples averaged 4.5×10^{-10} $\mu\text{c}/\text{ml}$. These samples were taken between March 2, 1961 and March 18, 1961 during blending of 93% uranium, transferring 93% UF_6 , etc.

The April 1961 urinalysis results for Mr. [redacted] indicated 133.8 d/m/l on April 20, 1961 and Mr. [redacted] urinalysis sample result indicated 142 d/m/l on April 24, 1961. There were also high air samples for April 1961. Six samples averaged 4.5×10^{-10} $\mu\text{c}/\text{ml}$, two samples averaged 5×10^{-9} $\mu\text{c}/\text{ml}$ and one sample was 4.1×10^{-8} $\mu\text{c}/\text{ml}$. These samples were taken during blending of 93% material.

The licensee indicated that steps have been or are in process to rectify the causes of these high air samples (see Appendix D).

Although determination of the amount of time the employees were in this contaminated atmosphere could not be determined, it was long enough for the personnel to inhale enough uranium that it showed in their urine.

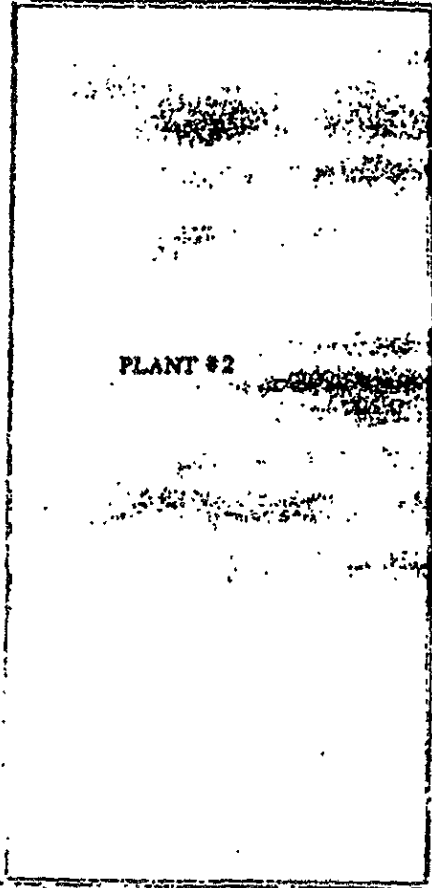
To further substantiate this discrepancy, it should be noted that the film badge results indicated that for a period of more than one year (January 1960 to February 1961) greater than 50% of the badges worn showed evidence of contamination. This indicates that uranium dust in the air settled on the badges.

The licensee furnishes protective clothing to personnel working in the area. This consists of shoe covers, coveralls, respirators, etc.

Previous Item of Noncompliance

38. The previous item of noncompliance was the failure to properly label some of his containers as per 20.205 (f)(1), (f)(2) and (f)(4). This item of noncompliance had been rectified.

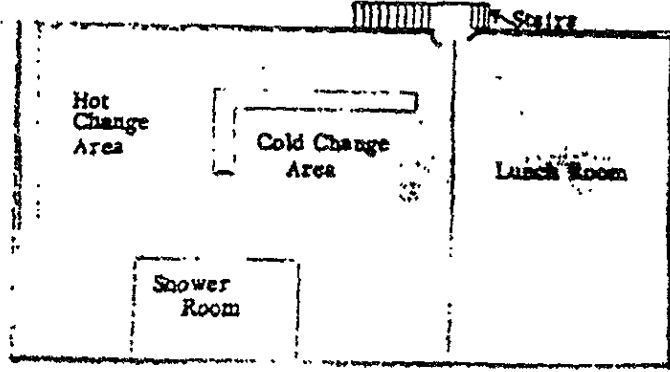
N



PLANT #2

Storage Bldg.

ROAD



Hot Change Area

Cold Change Area

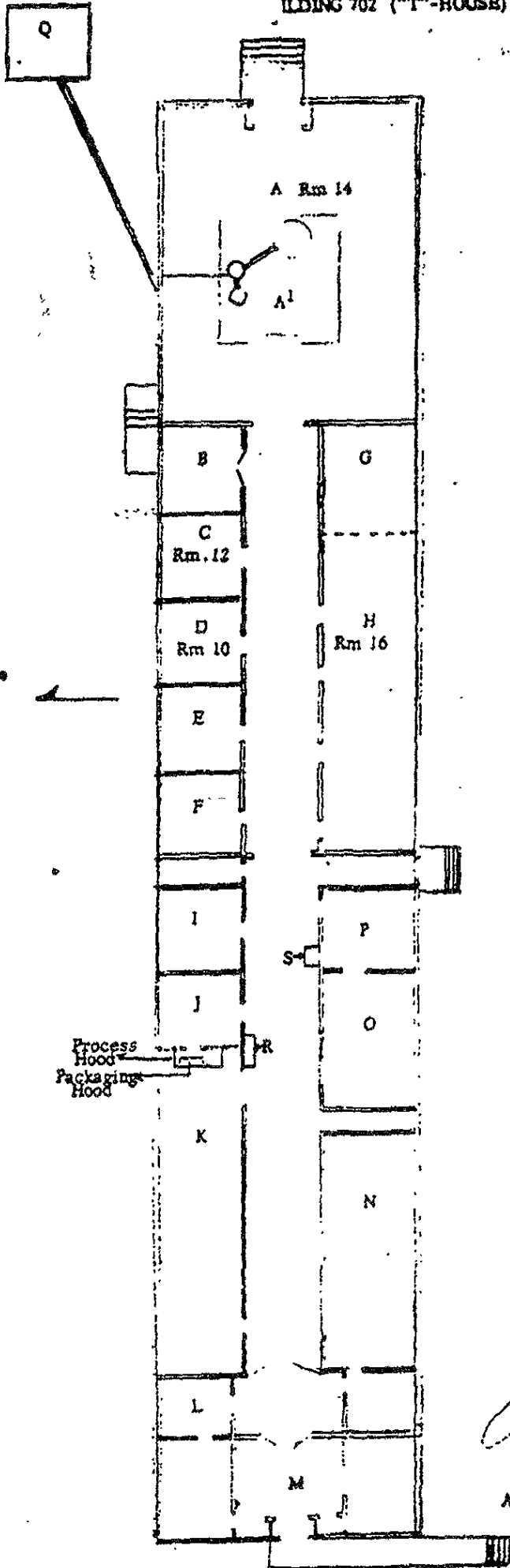
Shower Room

Lunch Room

Scize

APPENDIX A

BUILDING 702 ("T"-HOUSE)



A-Rm 14 - Pilot Plant and Hydrolysis Room

A¹- "Reactor" pit

B-Receiving Room

C-Lab analysis and Special Projects

D-New Hood Room
 E-Hood & Dry Box
 F-Hood & Dry Box } Fusion, Screening
 and Packaging Area

G-General Storage Area

H-Rm. 16-Processing Area-Fusion
 Process Equipment

I-License Material Storage

J-Laundry

K-"T"-Room (only place where 93%
 material is processed)

L-Lunch Room

M-Office and Change Area (visiting persons)

N-Packaging and Storage Area (storage
 prior to shipping)

O-Change area (working personnel)

P-Wash Room

Q-Feed Preparation Area for the Pilot
 Plant in Rm. 14

R-Uncovered Storage Shelf for Respirators

S-Instrument Storage Cabinet

SPENCER CHEMICAL COMPANY

Place: Jayhawk Date: April 17, 1961
 To: Health and Safety File cc:
 Subject: Contamination Problem, T-House Retain File

1. The analytical results obtained on the urine samples which were turned in on February 3, showed to be above the control limit of 90 D/M/L which we have set. Check samples were submitted and they indicated that had dropped below the control limit but that still exceeded it. At that time, Feb. 20, was removed from the uranium processing areas and assigned to miscellaneous jobs outside of the process areas to prevent further exposure to uranium dust. Several urine samples have been analyzed since that time and the uranium level has shown a steady decline. The last sample submitted on April 3 analyzed 132 D/M/L. He still is being used for miscellaneous jobs outside of the processing areas. Please refer to the Health and Safety records for more details.
2. At the time the high urinalysis results were obtained, an air sampling program was initiated in the T-House in an effort to determine what operations were responsible for the high analyses. These tests have shown that the concentration of uranium in the air in the general working area is quite low and that the high urinalysis results probably are due to two or three intermittent operations which are performed. Concentrations of uranium above the recommended limits were obtained on air samples taken while "green salt" was being unloaded from the filter in the UF₆ hood, while "green salt" was being transferred from the drying trays to the furnace trays in the transfer hood, and while UO₂ was being handled in the UO₂ hood.
3. In order to decrease the potential of exposure in the future, the following steps were initiated on March 10.
 - a. Additional Lucite was installed on the front openings of the UF₆, transfer, and UO₂ hoods in order to increase the velocity of the air being drawn into the hoods. This will decrease the quantity of dust which escapes from the hoods.
 - b. All personnel who recently have been working in the T-House were reassigned to other jobs and new personnel assigned to the T-House until urinalyses indicated that those formerly working in the T-House had not been overexposed.
 - c. Since air samples which had been taken indicated substantial variations in the dust concentrations outside of these hoods when different people were working, it was apparent that the techniques used also were very important. Consequently, all personnel were cautioned to use care in the handling of the solids to keep dusting to a minimum, even inside the hoods.
 - d. Until adequate data are obtained to insure that the dust levels outside of these hoods have been decreased substantially, all operators must wear respirators while working with solids in these hoods.
5. Air samples which have been obtained subsequent to the design changes and improvements in operator techniques have shown that the potential contamination problem has been decreased markedly.

G.B. CHENOWETH

GBC:ls

DOCUMENTS IN SUPPORT OF CLAIM

1. JOPLIN GLOBE ARTICLE

THE JOPLIN GLOBE

January 16, 2001

DAILY 50¢ — SUNDAY \$1.50

Ex-workers at plant may get restitution

By J.C. Smith
Globe Staff Writer

RIVERTON, Kan. — People who worked at the former Spencer Chemical Co. plant north of Riverton could be eligible for compensation if they have contracted radiation-related diseases.

But, several former employees of the chemical operation known as the Jayhawk Plant, and now owned by Chevron Chemical Co., discount the possibility that any of the workers suffered any form of illness linked to radiation.

See **Workers**, Page 10A

Workers

Continued from Page 1A

So long it neglected sick workers too long, the federal government argued thousands of Cold War-era workers nationwide to come forward to be compensated. It is offering sick workers help in covering medical bills and a \$150,000 lump-sum payment.

Spencer Chemical, which was sold to Kerr-McGee in 1963 and has changed hands several times since, among more than 300 eligible sites in 37 states, according to a list released this week by the U.S. Department of Energy.

"For many years, the government promoted a legacy of neglect toward these workers who helped build the longest national security in the world," Energy Secretary Bill Richardson said. "We failed to take care of workers who had become sick from exposure to radiation, plutonium and other hazards."

Richardson said government officials are prepared "to right our past wrongs."

Former Spencer Chemical employees said they do not know of anyone they worked with who had become ill from radiation connected with the plant.

Robert Pursley of Pittsburg, president of the Retiree Committee, a so-

cial organization composed of former plant workers, said if anyone had become ill with a radiation-related disease, he most likely would know about it.

"Truthfully, I cannot think of anyone who had become sick," he said. "I have never known anyone from that plant to have any form of radiation disease."

Pursley said workers in the nuclear fuel department worked with uranium, an element that could result in radiation exposure.

Jim Wood, who was a safety inspector in the nuclear fuel department at Spencer Chemical until shortly before it was closed, said a number of safety devices were in place.

Wood, who now lives in Carl Junction, Mo., said he believes he would know if anyone had become ill.

He said he was in charge for several years of taking urine samples and monitoring radiation-detection badges worn by the 20 to 25 employees in the department.

Finding the Kansas plant workers will be one of the more difficult parts of the compensation program, energy and labor officials said, because the plant closed decades ago.

To help get the word out, the government plans to take out newspaper ads and pass out fliers in Southeast Kansas and other areas nationwide where plants have since shut down.

"There's going to be a considerable outreach program," said Pete Turcic, a Department of Labor employee helping to lead the compensation task force. "These long latency periods are common."

In the 1960s, as many as 200 people worked throughout the local plant.

Gerald Eckhardt, emergency management director for Cherokee County, said he knows of several former employees still living in the area, but he does not know of any former employee who is sick from radiation-related disease.

Officials say it would be wrong to conclude that people who worked at any of the plants automatically became ill. While some of the plants, factories and mills produced thousands of tons of uranium, others may have had only a few pieces of uranium at their site for a single day of testing.

"We're not saying there is a large number of sick workers at this one Kansas site," said Jeff Sherwood, Department of Energy spokesman. "Work is being done now to understand the amount of radiation doses present there."

On Sept. 21, the Department of Energy released a list of sites reviewed for possible past involvement in nuclear weapons and nuclear energy activities.

The Spencer Chemical plant was on that list.

In 1964, in the wake of the sale of

Spencer, the building at the plant where some nuclear-related work was done was dismantled and burned, according to the Kansas Department of Health and Environment.

The KDHE said the radioactive ash that was the result of that project was buried under a Nuclear Regulatory Commission license.

The state health department that time proclaimed the site contaminated.

The plant became the proper Gulf Oil Co., which in 1982 requested another decontamination of the property as a precautionary measure.

Ten years later in 1992, the state reviewed all old licenses issued when the Department of Energy was compiling the list released in September.

The KDHE performed another evaluation of the site as part of a review, and again found no public health threat.

Eckhardt has contended that nuclear waste may be buried at the plant site. The KDHE has requested further documentation from the Department of Energy.

The NRC is still reviewing the Spokesman Breck Henderson says the commission has a blanket policy of not commenting on any area which it is testing.

The Associated Press contributed to this report.

MEDICAL RECORDS

23 pages of medical records withheld

St. John's Regional Medical Center
2727 McClelland Blvd.
Joplin, Mo 64804
417-625-2175

ATTN: MEDICAL RECORDS DEPT

06/07/2002


DE

Re:

We have received your request for records, however,

WE HAVE BEEN UNSUCCESSFUL ANY LOCATING ANY RECORDS ON
RECORDS ARE REQUIRED BY LAW, TO BE MAINTAINED FOR 25 YEARS AND BILLING
RECORDS FOR ONLY 7 YEARS. I WILL KEEP A COPY OF YOUR ORIGINAL REQUEST IN
THE CHANCE THAT THESE RECORDS SHOULD BE LOCATED.

if you have any questions, please call us at 417-625-2175.


Information Release
St. John's

UNIVERSITY OF KANSAS MEDICAL CENTER
KANSAS CITY, KANSAS

K-7-1117

CASE SUMMARY

SP. NO.

ADMITT:

41.
This is the first KUMC admission for referred by Dr. Scorse of Joplin, Mis.

CC: Back pain, dark urine and enlarging abdomen for two months.

HPI: The patient had the onset of low thoracic pain with radiation to the right costal margin approximately 2 months ago. Approximately one week later he began to feel weak, listless and became anorexic. At this time he noted dark colored urine and clay colored stools. Two weeks PTA he noticed an increase in abdominal girth. He has had a 25 pound weight loss over the past 3-6 months. Occasionally feels nauseated after meals with vomiting of food and bile stained material. 4-5 days PTA he noted that his eyes were yellow. Denies any diarrhea or melena, itching of his skin, or severe abdominal pain.

BH: Noncontributory.

PMH: Noncontributory. No known allergies, no history of blood transfusions.

ROS: Essentially negative.

PHYSICAL EXAMINATION: BP 110/60, P 80 and regular, R 16. The patient was a w/d w/m in no acute distress. HEENT - icteric sclerae and slight icterus of mucous membranes. Neck - supple. Chest - clear to P&A. Heart - regular with no gross enlargement or murmurs. Abdomen - symmetrically distended, decreased bowel sounds, liver palpable 3 finger breadths below the right costal margin. No other organs or masses felt. Positive fluid wave and shifting dullness. Genitoretal within normal limits. Extremities and neurological - within normal limits.

LABORATORY AND X-RAY: Admitting urine positive for bile. Hemoglobin 10.7, hematocrit 34.5, WBC 4,000 with a normal differential. VDRL nonreactive. FBS 96, 2 hour postprandial 120. Creatinine 1.0. Electrolytes within normal limits. Liver function test - bilirubin 7.1, total, with a direct of 3.9 mg%. Alkaline phosphatase 6.8, SGOT 55 units. Sed. rate at one hour 25. Amylase 105. Blood ammonia 62. Total-protein-3.5g. EKG within normal limits. Liver scan shows no definite defects in the liver. Chest film normal. Barium enema within normal limits except for minimal displacement of the hepatic flexure to the midline, most probably by liver enlargement. Abdominal paracentesis was done with removal of bloody fluid containing cells consistent with adenocarcinoma, Class IV.

HOSPITAL COURSE: On 8-11 the patient was transferred to Dr. Albritten's Service. On 8-12 an exploratory laparotomy was done. At this time carcinoma of the pancreas was found with abdominal carcinomatosis. Palliative procedure was done and the patient's postoperative course

UNIVERSITY OF KANSAS MEDICAL CENTER
KANSAS CITY, KANSAS

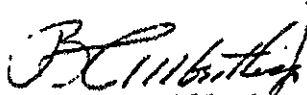
CASE SUMMARY

NAME	HOSP. NO.	ADMITTED	DISCHARGED	CL.
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was unremarkable, with good clearing of jaundice, and anorexia.
The patient was discharged to follow up by his LMD.

FINAL DIAGNOSES: 1. Adenocarcinoma of the pancreas.
2. Abdominal carcinomatosis, generalized.

OPERATIONS AND PROCEDURES: 1. Exploratory laparotomy.
2. Cholecystojejunostomy.
3. Jejunojenunostomy.
4. Biopsy of omentum.


Frank F. Albritten, Jr., M.D.
Staff Physician

Binding Line

University of Kansas Medical Center
 Kansas City, Kansas
LABORATORY RECORD

40

URINE						MICROSCOPIC EXAM							
Date	How Obs.	ph	Sp. Gr.	Red. Sub.	Protein	RBC/hpf	WBC/hpf				acet Diac	Bil.	Hb
8/4		6.0	1.020	neg	neg		1-4	see gross exam / hpf made miscant thick					

BLOOD															
Date	Hemoglob GM %	Hematocrit %	RBC/cu mn	WBC/cu mn	Seg.	Band	Lym	Mono	Eos	Baso	Meta	Myel	Platelets Cu/mm.	Retic %	Remarks
8/5	10.7	34.5		4120	61		29	6	4				165,000	0.6	plasma jaundice
8/5	10.3	32.5	3,860,000												plasma jaundice
8/5	10.6	32.5	4,000,000												plasma jaundice
8/5	9.8	31.5		5,780	64	1	27	8					180,000	0.8	plasma jaundice
8-10	12	36		5,460	87	2	5	7							plasma jaundice slight hypochrom
8-13	13.2	43		8,140	87	1	8	3	1						plasma jaundice
8-14	12.2	45		9,940	82		12		1						plasma jaundice
8-15	14.3	45		9,540	82	1	11	5	1						plasma jaundice
8-16	13.9	43		9,030	71		3	6							plasma jaundice
8-18	12.4	44		8,320	80	4	13	3							plasma jaundice
8-20	12.4	40		7,940	73	4	22	4	4						plasma jaundice

SERUM								
Date	VDRL	Kline	Kolmer	Quant. Kolmer	Reiter C.F.	Date	Blood Group & Rh Factor	Antibody Screen
8/5	NR					8-11	Drug dec. 12/12/59	

Date	Time	Glucose MG %	Urea N. MG %	Creatinine MG %	Date	Sodium MEQ/L	Potassium MEQ/L	Chloride MEQ/L	CO ₂ (HCO ₃) MEQ/L	Calcium MEQ/L	Phosphorus MEQ/L	Total Protein GM %	Albumin GM %	Globuli GM %
8/5	fast	89	17	1.0	8/5	137	3.4	97	28	4.8	2.0			
8/6	FBS	96			8/9	139	3.7	97	27					
8/5	2hr PP	120			8/8	132	3.7	99	25					
8-7	FBS	100			8/10									
8-7	1hr PP	124			8-13	134	4.0	100	24					
					8-14	133	4.4	98	2.6					
					8-13	133	4.4	98	3.9					
					8-15	131	4.8	99	2.6	3.9	1.6			

SPINAL FLUID (Lumbar). If not, indicate type in Miscellaneous.

Date	Cell Count /cumm WBC RBC	Neutro- phils	Mono- nuclears	Glucose MG %	Chloride MEQ/L	Protein MG %	Colloidal Gold	Kolmer Serology	Miscellaneous

GASTRIC ANALYSIS				GLUCOSE TOLERANCE			LIVER FUNCTION TESTS						
Date	Hour	Free HCL	Total Acid	Date	GLUCOSE			Date	Bilirubin MG % Total Direct	Alk. Phos. B.L. units	SGOT units	PT units	CCP 24 hrs.
					Spec.	MG % Blood	% Urine						
	F				F			8-5	7.1	3.9	6.8	55	
	1				1			8-6	7.1	0.4	5.2	44	
	2				2			8-7	7.5	4.2	6.9	47	
	3				3			8-8	8.9	5.1	6.5	47	
	4				4			8-9	8.1	4.4	6.9	48	
					5			8-10	8.1	4.9	6.5	40	
					6			8-19	5.1	2.7			

MISCELLANEOUS TESTS			
Date		Date	Date
7/5	ESR - 8, 19, 23, 25	8/5	8/5
7/5	Acid Phos - 0.3	8/5	8-10
7/5	Cholesterol - 239	8/5	8/9
8/5	PBT = 13.7 mg %	8/5	8/10
8/5	iron serum 43	8/5	8/10
8/5	iron hind cap 306 - 14	8/5	8/10
8/5	Blood indices MCV 85 MCH 26.8 MCHC 32	8/5	8/10
8/5	Amylase 105	8/5	8/10
8/5	Antiphilic antibody - negative	8/5	8/10
8/5	Lipase - 1.6	8/5	8/10
8/6	Amylase - less than 100	8/5	8/10
8/6	MCV - 82 MCH - 26.5 MCHC - 33	8/5	8/10
8/5-8/6	24 hour urine urobilinogen equiv. = 3.7 Ehrlich units/14 hours	8/5	8/10

Handwritten notes:
 7/5-8/10
 8/5
 8/10
 8/9
 Paracentesis
 Amylase 200 Somogyi
 Lipase 0.6 U
 Bilirubin T 3.7
 D 1.3
 Sp. gr. 1.020
 granular - loaded with
 rbc debris - no organisms
 seen
 Total protein 3.5
 Alb 2.3
 Glob 1.2

KANSAS MEDICAL CENTER
CONSULTATION

C
NC

Hospital No.

Date

8/8/66

To

Name

No.

419D

Ward..... is referred to you. Our findings in the case are as follows:

2 yr history of
anorexia and wt loss & development of dark urine,
clay colored stools, ascites & jaundice

Please report in regard to

Evaluation and recommendations

If the patient requires treatment in your service, please indicate desirability of transfer.

Med I / Telford / Watson
V.P.

Date

8-9-66

To

Dr. Kelly

V.P.

Our findings are as follows:

A duodenal drainage may be of some help in further
localizing the primary tumor site.
There appears to be a partial extrahepatic obstruction
which may require a bypass. I suppose this is
best accomplished sooner than later. However, if the
tumor will progress fairly rapidly, then a operation
may just add another stress.

Radiation or radionuclide drugs may help in
reducing the ascites production, which would make
the pt. feel better & perhaps aid in the future
management.

Recommendations:

The Gall bladder could be the primary site.

Rhosles

V. Physician.

All requests for consultations between members of the Medical and Surgical Staff, and also the opinion of the consultant, are to be made in writing. Such written opinions are to be incorporated in the Hospital records.

Ligase elevations can occur in metastatic ca to the liver, and are not very helpful in IDx of original site. Rhosles

This Margin for Bind

8/19/66

615

Hospital No.

CONSULTATION

Date 8/9/66

To Dr. Albutten Visiting Physician.

Name

No. 419D

Ward....., is referred to you. Our findings in the case are as follows: 51 yr old W.C. who developed anorexia, chloruria, clay colored stools, ascites + jaundice over 2 mo. Has had 25# wt loss also.

Please report in regard to MUB + BE + IVP demonstrate a space occupying lesion in RUQ

- 1. Evaluation and recommendations.

If the patient requires treatment in your service, please indicate desirability of transfer.

Med ± / Water / Telp V.P.

Date 10 Aug 66

To Dr. Albutten, Med I V.P.

Our findings are as follows:

History and findings reviewed.
Not yet firmly established.
Probably peritoneal carcinomatosis secondary to pancreatic carcinoma.
Believe exploratory laparotomy justified.
Discussed with patient.
Will accept on transfer if desired.

Recommendations:

Dr. Albutten V. Physician.

This Margin for Bill

8/10

Tom

Chart reviewed, pt unavailable. Will return

J Gould

As examined was presented. Most probable dx is
Ca of the pancreas, probably head, although may have
ca of the C.B. collecting system. Would recommend
Stool for guaiac, end explor. laparotomy

J Gould

OPERATION BLANK

UNIVERSITY OF KANSAS MEDICAL CENTER

Hospital No.....

Name..... Date August 12, 1966
 Operator Frank F. Allbritten, Jr., M.D. Assistant Drs. Gould and Jacobi
 Anaesthetic Endotracheal inhalation Time.....
 Anaesthetist..... Section.....

Pre-op. diag: Carcinoma of the pancreas, with peritoneal carcinomatosis

Postop. diag: Carcinoma of the pancreas with peritoneal carcinomatosis

Operation: Exploratory laparotomy; biopsy of omentum, cholecystjejunostomy;
jejunojejunostomy En Roux Y

Description of Operation by Dr. Allbritten/slc Date August 12, 1966

The patient was placed on the operating table in a supine position. The skin of the abdomen was prepared with ether, tincture of Merthiolate and draped with sterile linens. A midline upper abdominal incision was made. Bleeding points were tied with 4-0 chromic catgut as encountered. Sterile towels were clipped to the wound edges. The incision was deepened to the midline of the abdominal wall and the peritoneal space entered.

There was a large amount of bile stained fluid present within the peritoneal space and a total of approximately 3.5 liters was aspirated. After this was completed, multiple carcinomatous implants could be seen studded promiscuously over all free peritoneal surfaces. There was a huge tumor mass occupying the head and body of the pancreas with gross extension into the retroperitoneal tissue and into the root of the mesentery of the small bowel. The liver contained a number of small metastatic nodules. The gallbladder was grossly distended. Although it was not of great size, it was quite tense. The omentum was filled with carcinomatous tissue. A V-shaped segment was removed to send to the laboratory for histologic confirmation of the diagnosis.

In view of the distended gallbladder, I thought it was possible that we might be able to provide some palliation by a by-pass of the distal ductal system. With this in mind, the first portion of the jejunum was elevated into the wound. Mobilization was rather difficult because of extension of the tumor into the root of the mesentery. A suitable segment of the jejunum was found approximately thirty centimeters distal to the ligament of Treitz. The jejunum and jejunal mesentery was divided at that point. The proximal end of the jejunum was then anastomosed to the antimesenteric border of the distal limb of the jejunum approximately thirty centimeters distal to the site of division. The distal end of the jejunum was then brought over to the

continued -----

Signed..... M
Surgeon

OPERATION BLANK

UNIVERSITY OF KANSAS MEDICAL CENTER

Hospital No.....

Name..... Date August 12, 1966

Operator Frank F. Allbritten, Jr., M.D. Assistant Drs. Gould and Jacobi

Anaesthetic Endotracheal inhalation Time.....

Anaesthetist..... Section.....

Pre-op. diag:

Postop. diag: Page "2"

Operation:

Description of Operation by Dr. Allbritten/slc Date August 12, 1966

gallbladder and a cholecystojejunostomy accomplished using an outer layer of interrupt sutures of 4-0 cotton and an inner layer of a continuous suture of 4-0 chromic catgut. Adequate decompression of the biliary tree seemed to have been established.

The sponge count was correct. All bleeding had been controlled. Closure was started. Tissue layers were approximated anatomically with interrupted sutures of cotton. A sterile gauze dressing was applied with adhesive. The patient left the operating room in fair condition.

Signed  M.
 Frank F. Allbritten, Jr., Surgeon

UNIVERSITY OF KANSAS MEDICAL CENTER
DEPARTMENT OF PATHOLOGY AND ONCOLOGY
Laboratory Report

8-12-66

5311-66

Pathology Number

Patient's name

Dr. Alibritten

51 W M Patient has back pain, nausea, anorexia for 2 months' duration. Clay colored stools and dark urine for 2 months. Jaundice of 10 days' duration.

Operative findings: Ascites, jaundice

Preop: Carcinoma of pancreas

KA: Submitted in formalin are 2 specimens, the first consists of an omental node which measures 2 1/2 x 2 1/2 x 1 cm. and is shaped somewhat as a wedge from the leading edge of the omentum. There is some recognizable fat but the main portion of this specimen consists of a dirty, white, somewhat granular appearing lesion which has replaced the fat. sections of this are submitted as (A).

The second specimen consists of a segment of small bowel labelled as "jejunum" which measures 3 cm. in length and is approximately 7 cm. in circumference. There is a small bit of mesentery attached to this and there are no gross abnormalities recognized. A transverse section of this is submitted as (B). Also submitted with this is a 1 cm. segment of small bowel bearing clamp serrations. No sections of this are submitted.

Histological Pathology: The nodule from the omentum shows near total replacement by tumor which is composed of mucus producing columnar cells. The stroma is quite fibrous replacing most of the fat and the arrangement of epithelial cells varies from small tubules to papillary folds. The overall picture is that of papillarymucus producing adenocarcinoma.

Section of jejunum show unremarkable mucosa and submucosa inside a thick muscularis. The serosa is thick, vascular and slightly inflamed.

Diagnosis: Well differentiated adenocarcinoma metastatic to omentum.
Segment of jejunum, no diagnostic abnormalities recognized.

KA

J. O. Boley

J. O. Boley M.D.

University of Kansas Medical Center
 Kansas City, Kansas
 HISTORY, PHYSICAL EXAMINATION AND
 PROGRESS NOTES

40

Date	
8/4/66 cc:	This is a 51 y.o. w → chemist who enters in the of "nausea and loss of appetite."
NPT.	<p>Pt first noticed cc @ June 12, 1966. At that time he was easily fatigued and paled dark urine. Pt was in St. John's Hosp in Joplin, Mo - his home - on June 1, 1966 for a checkup and evaluation of lower right back pain. An upper & lower GI + SBW's were performed & found normal. There is no history of injections, transfusions, etc. since last fall. Pt was in hospital in Clinton, Mo. in April (14th) 1965 after car accident. Pt does not recall any blood transfusions or injections since at that time. While in hospital in June 1966 he was had no transfusions but did have blood drawn. There is no history of exposure to jaundiced persons. He works as a chemist & manages of a technical laboratory for Gulf Oil Co within the chemical Dept. of the agricultural-chemical division. He denies exposure to any hepatotoxins. He owns no pets, has lived in the same house for 5 years, has not seen any rats or mice in house, has not used any organic solvents at home. Has used 2,4-D + 2,4,5-T (chlorinated) pesticides in the spring in early May. Used NHy carbamate at end of May & first of June. Around June 17th pt had diarrhea for 3 weeks and had light brown to clay colored stools. He drinks for 1st part of clay colored stools persist. Pt first noticed jaundice 3 days ago. Pt has been anorectic for 1 1/2 mos but improving. Pt was on liquid diet for weeks by choice but is eating some solid</p>

food now. Pt has been resting & in bed on a chair for 2 weeks
 Pt weighed 145 on June 10 Pt weighs 124 now.
 Urine is still a little dark. There have been
 occ. flashes of R.M.O. pain. Pt has had low grade
 back pain in T-10 region localized to right side
 and not radiating from there.

Pt taking Festal for indigestion and a diuretic.
 Pt first noticed floating & "water on stomach" two weeks
 ago. Pt has long history of exposure with prescription to
 DDT. Also formaldehyde & urea. Some insecticides.

PT: ① Pt had USHD plus diphtheria.

② Pt denies pneumonia, P.F., S.F.

③ Toxic tetanus in 1927 at Joplin Mo by Dr. Moody.

④ Hospitalizations - Car accident in April, 1965
 with lacerations on face, lacerated tendon on
 left knee, 4-5 broken ribs on lower left (Alone NPT)

⑤ Injuries - see above

SH: Married for 24 years. Wife 50 y.o. L & W = 1 B.P.

4 children - 20, 22, 14; 20 → 18, 12, L & W.

Smoked 1 pack cig/day for 25 years until 4/65.

Occ. EtOH. Worked for Gulf Oil 21 years.

Worked for Atlas Corp for 2 years & US Navy 4 years.

Has not worked much at lab bench for 10 years.

FH: Father died at 74 of M.I. Mother is 83, L & W.

2 sisters - 55 & 40 L & W one = has fever.

1 brother - 53. L & W - Denies other family history.

ROS: HEENT: Pt has fungal infections of ear. Pt is farighted
 & "becoming nearsighted."

Resp - cough with phlegm 4 cup/day = clear & white.
 No recurrent chest colds. Last chest x-ray in June, 1966

Heart - Uses diuretics. No angina. No substernal
 pain. Leg cramps with exercise. Some cold feet

No edema.

Abdomen - see NPT.

~~Gastro~~

GU - neg.

Extremities - neg.

Neuro - neg.

University of Kansas Medical Center
Kansas City, Kansas

HISTORY, PHYSICAL EXAMINATION AND
PROGRESS NOTES

40

Date

8/4/66

PE:

HT 5'4" T 36" R 20

WT 122½ P 80 BP 125/75 (R+L)-recumbent.

- ① Skin: patches of dry flakiness are on legs, arms, and anterior thorax. Numerous cherry red spots angiomas - on anterior chest.
- ② HEENT - Severe alopecia. Accumulation of friable granular waxy material + dry skin in both ear canals. Pupils equal + react to Lt + accommodation. T.M.'s clear and normal. Right nostril occluded by projection from septum which is deviated to the right.
- ③ Neck - No lymphadenopathy. Thyroid enlarged + palpable but no nodules. No venous engorgement.
- ④ Chest + lungs - Increased A-P diameter. Increased tactile fremitus. Occ. dry rales heard with slight exp. wheezing. Diaphragmatic movement on inspiration is minimal.
- ⑤ Heart - Loud 4⁺ h.s. No thrills or murmurs. Heart not enlarged to percussion. A₂ > P₂. No fixation.
- ⑥ Abdomen - Fluid wave - shifting dullness - tympanitic - Liver palpable but not enlarged. No tenderness to palpation. Spleen not palpable. Bowel sounds active. Distended. No inguinal lymphadenopathy. No hernias. No pain on deep palpation or at rest.
- ⑦ Extremities - ~~no~~ 1+ pitting edema of lower legs - more on right. Some muscle wasting. Generalized in extremities.
- ⑧ Neurological - DTR's hyperactive. Superficial reflexes active. No sensory or proprioceptive loss.
- ⑨ Rectal - very tight sphincter. Has external hemorrhoid. Prostate is small but hard - maybe nodular. No other abnormal masses.

10 Genitalia - normal

Impression:

- ① Carcinoma of head of the pancreas
r/o Post-neuritic cirrhosis
r/o Chronic hepatitis - sequelae of infection
r/o Carcinoma of Gall Bladder
r/o Carcinoma of biliary tree
r/o Environmental exposure to hepatotoxins
- ② Chronic Pulmonary Obstructive Disease
r/o Bronchitis
r/o Emphysema
- ③ Benign Prostatic Hypertrophy
r/o Ca of Prostate
- ④ r/o Fungus infection in both ears

Studies:

UA, CBC, chest & KUB xrays, BUN, alk & acid Phos
creatinine, bilirubin T & B, lipase, amylase,
total uric acid, SGOT, serum electrolyte
including Ca & P₀₄.

JK
J. J. J.
Jaehlloughan

University of Kansas Medi
 Kansas City, Kan
 HISTORY, PHYSICAL EXAMINATION AND
 PROGRESS NOTES

Date 8/24/66

1st Kansas admission for this 51 y old
 inside small M. C. Barrett, from Joplin, Mo.

CC: "back pain, dark urine and enlarging abdomen"
 for 2 mo.

HPI: The patient gradually developed low thoracic
 pain & radiation around the 10th costal margin.
 He saw his MD who treated this with
 heat, diathermy and oral medication with
 improvement only a week. He was hospitalized for
 3 days at Joplin for evaluation at that time.
 He continued to feel weak, listless and
 became anorectic during the middle of June.
 He noted dark colored urine and clay
 colored stools. Two weeks ago he had a
 sharp increase in abdominal girth. He denied
 itchy pain, diarrhea or melena.
 He has had a 25 lb wt loss in
 past 3-6 mo. He has had several
 episodes of vomiting of food & bile. He works
 as a chemist but denies exposure to CCl₄.
 He has received vitamin and other injections
 the past 2-4 mo. Four - five days ago
 he noted the retroic stone.

- Present meds: 1. Fester
 2. Aldactazide

PMH: Diphtheria as child
 T + A 1927
 April 1965. Broken, brittle, swollen
 tendon of Rt. knee.
 No known allergies

Date	Time	Notes
	5H:	No tobacco for 1 1/2 yrs. Prior smoke 1-1 1/2 packs cigarettes / day. Only use E+OTI
	FH:	Father died at 74 from "heart attack" Mother 83. 1st dr. 3 kids & w. No diabetes, T.B, cancer or hypertension
	AOS:	Denies headaches Eyes: denies symptoms Ears: " " NMT: " " Resp: no S.O.B. No fever, No cough C-V: no chest pain; no ankle edema, S&S: see HPI GU: no dysuria, no nocturia Wt: lost 20 lbs. 1 1/2 mos NMS: see PMH.

1.E. P100 + reg. BP 110/60 R 16
 WO somewhat cachectic white male in no acute distress

Skin: no spider angiomas
 Head: alopecia
 Eyes: scleral icterus. Gr I arteriosclerotic retina
 Ears: not remarkable
 NMT: slight icterus of mucous membrane
 Neck: No enlarged lymph nodes. Slight enlargement of 2nd, 4th, 5th cervical. Carotids 3+5 bruit.
 Chest: 7 A-P diameter. Clear to (P)A
 No palpable axillary nodes.
 Heart: R5R. No ECG
 Abdomen: distended. F-Gud wave + shifting dullness.

University of Kansas Medical Center
 Kansas City, Kansas

40

HISTORY, PHYSICAL EXAMINATION AND
 PROGRESS NOTES

Date 8/4/66

Abdomen soft, palpable. Liver is palpable
 3 FIB below RLM, is slightly tender
 but no irregularities could be felt. No
 hepatic friction, spleen absent. No inguinal
 nodes or hernia.

Ext: some interosseous atrophy.
 No palmar erythema or white spots
 surgical scar in lt. infra-patellar area
 some limitation of flexion of lt. knee

Rectal: Many external hemorrhoids, small
 but firm prostate.

Neuro: Equal suprapatellar reflex
 Normal grip, + touch sensation.
 No Babinski.

- Imp. 1. R/O carcinoma of duct of pancreas
 2. R/O metastatic carcinoma to
 liver.
 3. R/O infectious hepatitis
 4. R/O hemolytic anemia
 5. R/O Gilbert's disease.

L. Watson, M.D.

8/6/66

Abdomen so far are comparable to
 an obstructive jaundice although the
 low direct bilirubin suggests hemolysis but
 retics are only 0.6%.

L. Watson, M.D.

8/7/66

Wt stable in spite of anorexia. Less
 abdominal distension. Will start on aldosterone.
 L. Watson, M.D.

Date Time Notes

8/8/66 Paracentesis for diagnostic aid of 300 cc cloudy dark fluid done today. Patient remains unchanged L. Watson, M.D.

8/9/66 3rd amsia. KUB, BE + IVP demonstrate a RUA mass which is not intraluminal in colon, kidney, ~~or~~ or liver. Will consult surgery. L. Watson, M.D.

8/10/66 Pap smear on peritoneal fluid \rightarrow x5 RBC's + malignant cells suggestive of mucous secreting adenocarcinoma, Clear TV Upper GI \rightarrow flattening of inferior portion of duodenal bulb - ? 2^o old scarring or to extrinsic pressure. Duodenal loop not displaced. Surg consult favors laparotomy. Imp - peritoneal carcinomatosis 2^o Ca pancreas. C. Thuler M.D.

University of Kansas Medical Center
Kansas City, Kansas

HISTORY, PHYSICAL EXAMINATION AND
PROCESS NOTES

Date 3-11-66

transfer note:
 44 yr 5'10" W ♂ Chemist from Jaylin, Mo.
 entered KUHC 8-4-66 with back pain,
 enlarging abdomen, nausea & anorexia.
 The pt. first noticed lower @ back
 pain 6-1-66. About 3 wks. of disease
 began June 12. At about the same
 time the pt. noticed clay colored stools & dark
 which have persisted until the present.
 Pt. has lost 21 lbs. since June 1, 1966.
 jaundice was noticed by the pt. about
 8-1-66.

Exploratory laparotomy is scheduled
 for tomorrow to R/O Ca. of the pancreas,
 ampulla or gall bladder.
 pre op. dx - peritoneal carcinoma 2"
 to Ca. of the pancreas.

Non-ferrous c.c.

8-12-66 op. note:

- ① pre op. dx. - Ca of pancreas
- ② post op. dx. - none
- ③ gross dx. - cholecystojejunoentero, jejunojejunoentero
 Res. in Y
- ④ findings - peritoneal metastasis, liver metastasis
 mesenteric metastasis, 3000 cc
 ascitic fluid
- ⑤ surgeon - Albritton, Gould, Jorsten, Ferguson
- ⑥ blood loss - 1500 cc
- ⑦ blood replaced - 1500 cc
- ⑧ fluid replaced - 3000 cc RL.

Date	Time	Notes
		<p>(9) drains - none</p> <p>(10) complications - none</p> <p>(11) post op condition - satisfactory</p> <p style="text-align: right;">Wm. George, M.D.</p>
8-12-66		<p>pt. is resting well & is conversant, both I & II still running.</p> <p style="text-align: right;">Wm. George, M.D.</p>
8-13-66		<p>I & O are adequate. Pt. not coughing well, encouraged to cough chest was clear this AM & pt. is afebrile.</p> <p style="text-align: center;">P-9.5</p> <p style="text-align: right;">Wm. George, M.D.</p>
8-14-66		<p>Ascitic fluid is beginning to accumulate again, bowel sounds present but no gas seen return, pt. has little pain or discomfort.</p> <p style="text-align: right;">Wm. George, M.D.</p>
8-15-66		<p>Ascites about the same as the day no bowel sounds heard this AM, no gas passed per rectum, pt. states that he feels better, jaundice still quite prominent.</p> <p style="text-align: right;">Wm. George, M.D.</p>

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ate	<p>9-16-66 During one of pts. coughing episodes this AM, he produced a dark red brown sputum. (vol?) Pt. is now coughing well & chest is nearly clear bilaterally to auscultation. Bowel sounds are hyperactive & pt. has not yet passed flatus.</p> <p style="text-align: right;">Wm. Fitzgerald</p>
9-16-66	<p># 18 Foley catheter changed to # 20</p> <p style="text-align: right;">Wm. Fitzgerald</p>
9-17-66	<p>Pt. has begun to pass flatus but has had no bowel movements yet. NG tube & foley still in place, pt. is afebrile.</p> <p style="text-align: right;">Wm. Fitzgerald</p>
9-18-66	<p>Pt. has had 3 bowel movements all of which were formed, dark brown & soft. Jaundice appears to be decreasing. Pt. is ambulating with E aid.</p> <p style="text-align: right;">Wm. Fitzgerald</p>
9-19-66	<p>Foley catheter in situ, total bilirubin 5.1 direct 2.7, urobilinogen still present.</p> <p style="text-align: right;">Wm. Fitzgerald</p>

Date	Time	Notes
		(9) drains - none (10) complications - none (11) rest of condition - satisfactory <div style="text-align: right;">Wm. George, M.D.</div>
8-12-66		pt. is resting well & is conscious, chest Wx still running. <div style="text-align: right;">Wm. George, M.D.</div>
8-13-66		I & O are adequate. Pt. not coughing well, encouraged to cough. Chest was clear this AM & pt. is afebrile. P-9.5 <div style="text-align: right;">Wm. George, M.D.</div>
8-14-66		Serous fluid is beginning to accumulate again, bowel sounds present but no gas per rectum, pt. has little pain or discomfort. <div style="text-align: right;">Wm. George, M.D.</div>
8-15-66		Assites about the same as the day, no bowel sounds heard this AM, no gas passed per rectum, pt. states that he feels better, jaundice still quite prominent. <div style="text-align: right;">Wm. George, M.D.</div>