

Monsanto
C O M P A N Y

800 N. Lindbergh Boulevard
St. Louis, Missouri 63166
(314) OXford 4-1000

July 31, 1967

U. S. Atomic Energy Commission
Division of Materials Licensing
Washington, D. C. 20545

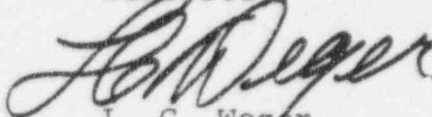
Ref: DML:IB:37

Gentlemen:

According to your instruction, attached is
Form HQ-277 completed to show disposition
of the Cesium 137 source which was obtained
under our License 24-01113-17.

With the return of this source to the supplier,
this license can be terminated.

Sincerely,



L. C. Weger
Safety Manager

cc: T. F. Gilmore
R. J. McManimie
U. S. AEC- Div. of Compliance

HQ-277
(1-66)

UNITED STATES ATOMIC ENERGY COMMISSION

CERTIFICATE - DISPOSITION OF RADIOISOTOPES

OK
RH
140
✓

LICENSEE (Institution, Firm, Hospital, Person, etc.)

Monnante Company
800 N Lindbergh Blvd
St. Louis, Mo. 63141

June 1, 1967
LICENSE NUMBER
24-01113-17
EXPIRATION DATE
July 31, 1967

ADDRESS (if same as above write same)

SAME

DEPARTMENT(S)

INDIVIDUAL RADIOISOTOPE USER(S)

R. J. McManimie
C. H. Adams
H. W. Mohrman
L. C. Weger

CERTIFICATION

The licensee and any individual executing this certification on behalf of the licensee certify that (check appropriate item(s) below):

☐ NO BYPRODUCT MATERIALS HAVE BEEN PROCURED AND/OR POSSESSED BY LICENSEE.

OR

ALL BYPRODUCT MATERIALS PROCURED AND/OR POSSESSED BY LICENSEE UNDER BYPRODUCT MATERIAL LICENSE NO. 24-01113-17 HAVE BEEN:

☐ (1) TRANSFERRED TO (state name or institution, firm, hospital, person, etc.) **(SUPPLIER)**
Nuclear - Chicago

333 E. Howard Ave.

Des Plaines, Illinois 60018

WHICH HAS BYPRODUCT MATERIAL LICENSE NO. ~~24-01113-17~~

☐ (2) DISPOSED OF BY DECAY.

☒ (3) DISPOSED OF IN COMPLIANCE WITH THE PROVISIONS OF 10 CFR 20.

☐ (4) LICENSED UNDER LICENSE NO.

ISSUED BY

AN AGREEMENT STATE PURSUANT TO SECTION 274 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED.

REMARKS: (if additional space is needed use reverse side)

SIGNATURE OF CERTIFYING OFFICIAL

L. B. [Signature] - SAFETY MANAGER

DATE

7/31/67

B/S2

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

BYPRODUCT MATERIAL LICENSE

Monsanto Commercial Products Company

License No. _____ -E

Pursuant to the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974 (Public Law 93-438) 10 CFR Part 30, "Rules of General Applicability to Licensing of Byproduct Material"; Section 32.1/, 10 CFR Part 32, "Specific Licenses to Manufacture, Distribute, or Import Certain Items Containing Byproduct Material"; application dated February 23, 1976 ~~letters dated~~ _____ and enclosures thereto from the licensee; a license is hereby issued to Monsanto Commercial Products Company 800 North Lindbergh Boulevard, St Louis, Missouri 63166 to distribute ~~the material~~ ^{by product material} with atomic numbers from 3 through ⁸³ to persons exempt from requirement for license pursuant to Section 30.4 10 CFR Part 30.

This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and other applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect.

This license shall expire on April 30, 1981

FOR THE NUCLEAR REGULATORY COMMISSION

Radioisotopes Licensing Branch
Division of Fuel Cycle and
Material Safety

Date _____

B/153

CONVERSATION RECORD

TIME

DATE

2:00pm

11/4/95

TYPE

☐ VISIT

☐ CONFERENCE

☒ TELEPHONE

☐ INCOMING

☒ OUTGOING

ROUTING

NAME/SYMBOL

INT

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

ORGANIZATION (Office, dept., bureau, etc.)

TELEPHONE NO.

Mike Murphy IH specialist MONSANTO

314-694-8837

SUBJECT

quarry at St Louis site

SUMMARY

site indicates, environmental reports 80's. MONSANTO
now owned coal mines. It appears that it could
have been a coal mine. Have been able to locate
research files for those individuals.

Needs a letter FAX 314-694-8820

Monsanto

800 N. Lindbergh Blvd

Building A-3N

ST LOUIS

63167

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

ACTION TAKEN

SIGNATURE

TITLE

DATE

B/H/54

50271-101

U.S. G.P.O. 1983-381-526/8346

CONVERSATION RECORD

OPTIONAL FORM 271 (12-76)
DEPARTMENT OF DEFENSE

EXPERT SYSTEM LICENSE EVALUATION
REPORT FOR LICENSE 24-01113-01

NAME OF LICENSEE: MONSANTO CHEMICAL COMPANY

LISTED SITE: RESEARCH DEPT., 1700 SOUTH 2ND STREET, ST. LOUIS, MO

INVENTORIED FILES FOR THIS LICENSE ARE IN THE FOLLOWING JOB/BOX NUMBERS:

JOB NUMBER: 1722 / BOX: 100

DESCRIPTION OF FIRST SITE AT WHICH 24-01113-01 WAS USED

THE SITE OF USE WAS THE MONSANTO CHEMICAL COMPANY, RESEARCH DEPARTMENT, ORGANIC DIVISION, 1700 SOUTH 2ND STREET, ST. LOUIS, MO. FROM INFORMATION ON THE APPLICATION, THE SITE OF USE APPEARS TO BE A LABORATORY SETTING. APPLICATION MENTIONED CHEMICAL HOODS AND REMOTE CONTROL EQUIPMENT.

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

LICENSE AUTHORIZED C-14 AND S-35 TO BE USED FOR AGRICULTURE AND BIOCHEMICAL STUDIES IN PLANTS AND LOWER ANIMALS.

MATERIALS INFORMATION FOR THIS LICENSE

---Material--	-SEALED OR LOOSE--	POSS. LIMIT	Unit	Initial score
C-14	LOOSE	0.500	CI	1.4
S-35	LOOSE	0.250	CI	

REVIEWER INDICATED ONE OR MORE OF THE MATLS MAY HAVE BEEN DISPOSED BY FLUSHING THE INITIAL SITE SCORE, based on the LOOSE material possession limits: : 1.44

FINAL DECISION FOR SITE, BASED ON LOOSE MATERIALS:

POTENTIAL SITE CONTAMINATION:
HIGHEST PRIORITY FOR REVIEW

The final SCORE for SITE CONTAMINATION is: 83

SEQUENCE OF RECORDED REASONING

1. There was at least one loose material on this license for which the amount remaining was reduced according to the length of the half-life
2. This license had some indication of improper disposal, and could not be eliminated on the basis of low score for loose materials. Reviewer opted to continue the evaluation further.

B/SS

3. Although there was some information indicating the possible disposal or dumping, the reviewer's opinion was that the potential hazard was not high, based on the best information available. Therefore, the score is increased by a factor of 1.5.
4. There was one identifiable site with this license.
5. FIRST SITE: Building contamination was judged by the reviewer to be unlikely, and reviewer found no evidence in file to indicate building contamination. Score reduced by a factor of 0.9.
6. Very unlikely or impossible for significant outdoor contamination to occur under this license at this site. $\text{Score} = \text{score} * 0.85$
7. FIRST SITE: There was no evidence or reason to suspect the occurrence of UNROUTINE or EPISODIC releases to the environment or outdoors at this site. Score is unchanged.
8. FIRST SITE: There was PROBABLE use of glove boxes, hoods, or protective clothing. Change in score depends on subsequent questions.
9. FIRST SITE: Possible inappropriate disposal or abandonment of contaminated material from glove boxes, hoods, or equipment. $\text{Score} = \text{score} * 1.1$
10. FIRST SITE: There was possible or limited generation of contaminated material from machinery used in the operation. $\text{Score} = \text{score} * 1.2$.
11. FIRST SITE: Possible inappropriate disposal or abandonment of contaminated material from machinery (cloths, parts, etc). $\text{Score} = \text{score} * 1.1$
12. FIRST SITE: There was evidence that solid waste was generated in the operation. $\text{Score} = \text{score} * 1.5$
13. FIRST SITE: Evidence of inappropriate disposal or abandonment of significant solid waste $\text{Score} = \text{score} * 1.8$
14. FIRST SITE: There was evidence that liquid waste was generated in the operation. $\text{Score} = \text{score} * 1.5$
15. FIRST SITE: THERE WAS DEFINITE INDICATION of disposal of liquid waste through the SEWER SYSTEM. $\text{Score} = \text{score} * 1.8$

16. FIRST SITE: Contaminated liquid waste was generated by operation. File evidence does NOT INDICATE disposal through means other than the sewer system. No change in score on current answer.
17. FIRST SITE: There was CONCRETE EVIDENCE OF POTENTIALLY SIGNIFICANT BURIAL OR DUMPING at the site. Score=score*2
18. FIRST SITE: Based on sparse information, the possibility of frequent turnover of materials limits under this license cannot be excluded. Thus, the score is being raised by a factor of 1.1
19. FIRST SITE: There was either no documentation of materials disposition or the documentation was inadequate. Score=score*1.2
20. FIRST SITE: There was no evidence available that a closeout survey was conducted at the site. Because the score was above 40 at this point, the current score is increased by a factor of 1.8.
21. FIRST SITE: There was NOT an NRC FINAL INSPECTION of the facility. Score not changed.

COMMENTS FOR LICENSE EVALUATION

Description of LICENSEE ACTIVITY UNDER THIS LICENSE

LICENSE AUTHORIZED C-14 AND S-35 TO BE USED FOR AGRICULTURE AND BIOCHEMICAL STUDIES IN PLANTS AND LOWER ANIMALS.

Reviewer's comments concerning potential TURNOVER OF MATERIALS
THERE WAS NOT ENOUGH INFORMATION IN FILE TO DETERMINE THE RATE OF TURNOVER OF THE BYPRODUCT MATERIALS.

---- continued on next page ----

Reviewer's comments concerning potential GENERATION OF WASTE APPLICATION STATED THAT REACTIONS WERE PERFORMED IN A CLOSED SYSTEM IN CHEMICAL HOOD. BECAUSE REACTIONS WERE TO BE PERFORMED IN CLOSED SYSTEM OF CHEMICAL HOOD, REVIEWER FELT THAT THERE WAS ONLY A LOW LIKELIHOOD OF INDOOR CONTAMINATION. REVIEWER HAD NO REASON TO SUSPECT RELEASES OR OUTDOOR CONTAMINATION. BECAUSE CHEMICAL HOODS WERE BEING USED, REVIEWER FELT THAT LARGE EQUIPMENT COULD HAVE BEEN POSSIBLY LEFT ON-SITE. COMPLIANCE INSPECTION REPORT STATED THAT PERSONAL EQUIPMENT, SUCH AS CLOTHING, AND APPARATUS WERE USED AND MONITORED. NO DISPOSITION INFORMATION FOR THE SMALL EQUIPMENT OR CLOTHING WAS FOUND. BASED ON INFORMATION IN THE COMPLIANCE INSPECTION REPORT, SOLID WASTE WAS GENERATED AND WAS BURIED ON-SITE. LIQUID WASTES WERE GENERATED AND WERE DISPOSED THROUGH THE SEWER SYSTEM BASED ON THE COMPLIANCE INSPECTION REPORT. AS OF MARCH 20, 1957 (ROUGHLY SIX MONTHS BEFORE LICENSE EXPIRED), 225 MILLICURIES OF RADIOACTIVE WASTES (POSSIBLY BOTH C-14 AND S-35 WASTES) HAD BEEN BURIED AND 125 MILLICURIES OF C-14 WASTE WERE DISPOSED THROUGH THE SEWER SYSTEM.

END OF COMMENTS FOR LICENSE EVALUATION

REGION RESPONSIBLE: III

LICENSEE NAME: MONSANTO CHEMICAL COMPANY

STREET ADDRESS: 1700 SOUTH 2ND STREET City: SAINT LOUIS

STATE OF PRINCIPAL OPERATION: MISSOURI

Site used: RESEARCH DEPT., 1700 SOUTH 2ND STREET, ST. LOUIS, MO

Disposition information present: OTHER DOCUMENT PRESENT IN FILE

Contents of other disposition information:

COMPLIANCE INSPECTION REPORT IN 1957 GENERAL FILE

Inventory record indicates some definite reference to disposal in file.

This license was listed as expired on 09/30/58

A P P L I C A T I O N I N F O R M A T I O N

There WAS a licensee application contained in the file

The application had some information on waste disposal practices.

The application contained some information on material use.

INVENTORY RECORD COMMENTS:

AGRICULTURE AND BIOCHEMICAL STUDIES IN PLANTS AND LOWER ANIMALS

JOB NUMBER: 1722

BOX NUMBER: 100

COMMENTS ON INVENTORY ENTRY FOR 24-01113-01

DISPOSITION INFORMATION WAS FOUND IN 1957 GENERAL FILE IN AN INSPECTION COMPLIANCE REPORT. INSOLUBLE WASTE MATERIAL WAS BURIED IN AN ABANDONED COAL MINE OWNED BY MONSANTO AND LOCATED ON ITS PREMISES NEAR THE ST. LOUIS FACILITY. OVER A TWO YEAR PERIOD, SIX BURIALS TOTALLING 225 MILLICURIES WERE MADE. THE MINE WAS ALSO USED BY THE MONSANTO CHEMICAL COMPANY FOR HAZARDOUS CHEMICAL WASTE STORAGE RESULTING FROM THEIR CHEMICAL PROCESSING ACTIVITIES. SOLUBLE WASTES WERE DISPOSED IN THE SEWER SYSTEM AT A RATE OF 1 MILLICURIE PER HOUR. THIS REPORT DATED 03-20-57 INDICATED THAT 125 MILLICURIES OF C-14 WERE DISPOSED IN THE SEWER SYSTEM.

INFORMATION ON LICENSEE APPLICATION FOR 24-01113-01

ACCORDING TO THE APPLICATION, WASTES WOULD BE DISSOLVED AND DISCHARGED INTO THE CITY SEWER SYSTEM AT A RATE OF 1 MILLICURIE PER HOUR.

Date of last evaluation or revision: 04/04/95

Reviewer's initials: EBL

License number: 24-01113-01

ORNL License Evaluation System Report

Page 4

CONVERSATION RECORD

TIME

10:00

DATE

10/16/95

TYPE

☐ VISIT

☐ CONFERENCE

☒ TELEPHONE

☐ INCOMING

☐ OUTGOING

ROUTING

NAME/SYMBOL INT

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Tom KAVLICK

ORGANIZATION (Office, dept., bureau, etc.)

MANSAUTO

TELEPHONE NO.

314-622

1474

SUBJECT

burial at St Louis coal mine

SUMMARY

Not in office Left message.

needs to find out about the coal mine.

11. Kavlick returned my call a few minutes later and I asked him to check out the coal mine.

Requested info that I have in reference to coal mine.

FAX # 314-622 1464

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

ACTION TAKEN

SIGNATURE

TITLE

DATE

B/156

50271-101

U.S. G.P.O. 1983-361-526/8346

CONVERSATION RECORD

OPTIONAL FORM 271 (12-76)
DEPARTMENT OF DEFENSE

TELEPHONE LOG

Call By: *William Snell*
William Snell

Date: Feb 15, 1996
Time: 2:00 PM

Called: Name: Mike Murphy
 Title: Industrial Hygienist
 Organization: Monsanto Chemical Company
 Phone No.: (314) 694-8837

SUBJECT: 20.304 Burials

Discussion:

I called Mike Murphy to discuss contents of the letter we were about to send to him. It was in reference to the 1956-57 20.304 burials that had taken place under License No. 24-1113-01. I discussed the fact that I had conducted an initial conservative assessment using RESRAD and the 225 mCi of C-14 that had been buried, and determined that a health and safety concern may exist. The letter would ask that they review their records to see if additional information could be found that would allow them to conduct their own assessment and determine if they thought a health and safety issue existed. I told him "worst case" they may have to dig the waste up and have it disposed of in an approved waste burial site. He asked about RESRAD and what our methodology was to perform our assessment. I gave him the document number (ANL/EAD/LD-2) for the RESRAD Manual, and the name of and phone number of Scott Dovel at ANL, who had recently taught a course in RIII on RESRAD. He did state that they had on microfiche the logs of the individual named on the license from back then.

3/15/97