



ICI Americas Inc.

March 21, 1988

Agricultural Products  
Environmental Health Center  
400 Farmington Avenue  
Farmington, CT 06032  
(203) 674-6300

Mr. Jack Davis  
Nuclear Materials Safety Section A  
Division of Radiation Safety & Safeguards  
U.S. Nuclear Regulatory Commission, Region I  
475 Allendale Road  
King of Prussia, PA 19406

Re: License No. 06-19068-01  
Docket No. 030-16018

Log	Apr. 3
Remitter	
Check No.	1075
Amount	\$120
Fee Category	3M
Type of Fee	AM D
Date Check Rec'd.	4/6/88
Date Completed	4/6/88
By:	A. Kintner

Dear Mr. Davis:

This letter is an application for amendment to our Material License No. 06-19068-1 of the Environmental Health Center, Stauffer Chemical Company.

Please make the following changes:

1. Applicant Name

Stauffer Chemical Company	to	ICI Americas Inc.
Environmental Health Center		Environmental Health Center

8E. Maximum Amount on Hand

For Sulfur-35, change the maximum amount that licensee may possess at any one time under this license from 1 millicurie to ten (10) millicuries. Prior to this time no studies with S-35 have been conducted. A new research project will be initiated that makes use of S-35 labeled inorganic sulfate to monitor glycosaminoglycan production in cultured cells. Current plans will use no more than 10 millicuries and allow for one time removal of wastes.

For Phosphorus-32, change the maximum amount that licensee may possess at any one time under this license from 5 millicuries to ten (10) millicuries. Current studies are conducted with 1 millicurie at a time. Raising the limit to 10 millicuries will allow more cost efficient removal of wastes.

12. Individuals - Use or supervise use of radioactivity

Add

Delete

Maintain

Dennis S. Hackett, Ph.D.	Joanne M. Killinger, Ph.D.	Robert F. Potrepka, Ph.D.
Richard C. Pepper, Ph.D.	Gary L. Sprague, Ph.D.	Dale W. Matheson, Ph.D.
Gregory D. Fisher, Ph.D.	Ronald D. Snyder, Ph.D.	
Polly R. Sager, Ph.D.	Theodore Y. Chin, Ph.D.	
William B. Mattes, Ph.D.	James P. Lehman, Ph.D.	
Kenneth L. Pavkov, Ph.D.		
James C. Ritter, B.A.		

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REG1 LIC30  
06-19068-01 PNU

"OFFICIAL RECORD COPY" ML18

108623  
3-24-88

March 21, 1988

• Mr. Jack Davis  
Page Two

Thank you very much for your attention in this matter. An amendment fee of \$120 is enclosed as specified in Section 170.31 (3M) of the revised 10CFR 170.

Sincerely Yours,

*Robert F. Potrepka*

Robert F. Potrepka, Ph.D.  
Radiation Protection Officer  
Environmental Health Center

Attachments (3)



## RADIATION TRAINING - METABOLISM LABORATORY SENIOR STAFF

### G. D. Fisher

1. "Environmental Health and Radiation Safety", short course at University of California - Davis, 1986. The course content included the safe handling and use of radionuclides in the laboratory.
2. ICI Americas Environmental Health Center radiation training, 1987. On-the-job training including: review of regulations by Radiation Protection Officer, laboratory work area radiation monitoring, radioactive waste disposal procedures, personal protection measures, and review of laboratory standard operating procedures for handling and using radioactivity.
3. "Mammalian Toxicology" graduate course at University of California - Davis that included a segment on handling and use of radioactivity.

### D. S. Hackett

1. ICI Americas Environmental Health Center radiation training, 1988. On-the-job training including: review of regulations by Radiation Protection Officer, laboratory work area radiation monitoring, radioactive waste disposal procedures, personal protection measures, and review of laboratory standard operating procedures for handling and using radioactivity.

### R. C. Pepper

1. "Bionucleonics" 3-credit course at the University of Pittsburgh. The course covered theoretical background, experimental procedures, general handling and proper disposal procedures for radioactivity.
2. One-day short course at University of Pittsburgh on safe handling of radioactivity and regulatory requirements.
3. ICI Americas Environmental Health Center radiation training, 1987. On-the-job training including: review of regulations by Radiation Protection Officer, laboratory work area radiation monitoring, radioactive waste disposal procedures, personal protection measures, and review of laboratory standard operating procedures for handling and using radioactivity.

### J. C. Ritter

1. ICI Americas Environmental Health Center radiation training, 1987. On-the-job training including: review of regulations by Radiation Protection Officer, laboratory work area radiation monitoring, radioactive waste disposal procedures, personal protection measures, and review of laboratory standard operating procedures for handling using radioactivity.

## RADIATION TRAINING - GENERAL TOXICOLOGY SENIOR STAFF

Kenneth L. Pavkov

Formal training: Isotopes in Research, conducted at Oak Ridge Associated Universities, 1969.

## RADIATION TRAINING - IN VITRO LABORATORY SENIOR STAFF

Polly R. Sager

Experience with radioactive compounds:

Worked with  $^{203}\text{Hg}$ -methylmercury;  $^{125}\text{I}$ -labeled proteins;  $^3\text{H}$ -labeled amino acids and proteins;  $^{14}\text{C}$ -labeled proteins and amino acids;  $^{35}\text{S}$ -labeled inorganic sulfate and amino acids; and  $^{32}\text{P}$ -labeled ATP and inorganic phosphate.

Most of the radiolabeled compounds were used in biochemical-type studies. These included determinations of protein synthesis, glycosaminoglycan production, phosphorylation of proteins, uptake and release of receptor ligands, and uptake of compounds by cultured cells.  $^{203}\text{Hg}$ -methylmercury was also used in vivo to assess whole body levels and tissue distribution of compound. Radiolabeled compounds were monitored by scintillation counting, gamma counting, autoradiography of gels and tissue sections.

W.B. Mattes

Formal training: Radiation Safety in the Laboratory, National Institutes of Health, 10 July, 1984

Laboratory experience with radioisotopes is outlined below. This list is not exclusive.

$^3\text{H}$  - University of Michigan 1974-1980

Worked with  $^3\text{H}$ -labeled nucleosides, pyrimidines and purines  
Carried out an organic synthesis with  $^3\text{H}$ -methyl iodide.

Johns Hopkins University 1980-1983

Worked with  $^3\text{H}$ -labeled nucleosides, pyrimidines and purines.

Worked with  $^3\text{H}$ -labeled DNA.

Worked with  $^3\text{H}$ -labeled N-acetoxy-acetylaminofluorene.

National Cancer Institute 1983-1986

Worked with  $^3\text{H}$ -labeled DNA.

$^{35}\text{S}$  - University of Michigan 1974-1980

Johns Hopkins University 1980-1983

Labeled proteins in vivo with  $^{35}\text{S}$ -methionine. Worked with the labeled proteins



RADIATION TRAINING - IN VITRO LABORATORY SENIOR STAFF

W.B. Mattes - contd.

<sup>14</sup>C - University of Michigan 1974-1980

Carried out an organic synthesis with <sup>14</sup>C-methyl iodide.

Worked with <sup>14</sup>C-labeled N-methyl mitomycin C.

National Cancer Institute 1983-1986

Worked with <sup>14</sup>C-labeled phenylalanine mustard.

<sup>32</sup>P - Johns Hopkins University 1980-1983

Labeled DNA in vivo with <sup>32</sup>P<sub>04</sub>.

Labeled DNA in vitro with <sup>32</sup>P-labeled nucleotides.

Worked with <sup>32</sup>P-labeled DNA.

ICI Environmental Health Center 1986-present

Labeled DNA in vitro with <sup>32</sup>P-labeled nucleotides.

Worked with <sup>32</sup>P-labeled DNA.

Labeled materials were monitored with scintillation counting, autoradiography (<sup>35</sup>S and <sup>32</sup>P), fluorography (<sup>3</sup>H), and Geiger-Mueller counting (<sup>35</sup>S and <sup>32</sup>P).

# SCHEDULE OF FEES FOR MATERIALS LICENSES AND OTHER REGULATORY SERVICES—Con- tinued

Category of materials licenses and type of fee	Fee *
License.....	Full cost.
Amendment.....	Full cost.
Renewal.....	Full cost.
F. Licenses for possession and use of source material for shielding, except as provided for in § 170.11(e)(8).	
Application-New license.....	\$60.
Renewal.....	\$60.
Amendment.....	\$60.
G. All other source material licenses:	
Application-New license.....	\$350.
Renewal.....	\$230.
Amendment.....	\$120.
3. Byproduct material:	
A. Licenses of broad scope for possession and use of byproduct material issued pursuant to Parts 30 and 33 of the chapter for processing or manufacturing of items containing byproduct material for commercial distribution to licensees:	
Application-New license.....	\$1,200.
Renewal.....	\$700.
Amendment.....	\$120.
B. Other licenses for possession and use of byproduct material issued pursuant to Part 30 of this chapter for processing or manufacturing of items containing byproduct material for commercial distribution to licensees:	
* Application-New license.....	\$460.
Renewal.....	\$460.
Amendment.....	\$120.
C. Licenses issued pursuant to §§ 32.72, 32.73, and/or 32.74 of Part 32 of this chapter authorizing the processing or manufacture and distribution of radiopharmaceuticals, generators, reagent kits and/or sources and devices containing byproduct material:	
Application-New license.....	\$1,400.
Renewal.....	\$1,400.
Amendment.....	\$230.
D. Licenses and approvals issued pursuant to §§ 32.72, 32.73, and/or 32.74 of Part 32 of this chapter authorizing distribution of radiopharmaceuticals, generators, reagent kits and/or sources or devices not involving processing of byproduct material:	
Application-New license.....	\$700.
Renewal.....	\$700.
Amendment.....	\$120.
** E. Licenses for possession and use of byproduct material in sealed sources for irradiation of materials in which the source is not removed from its shield (self-shielded units):	
Application-New license.....	\$230.
Renewal.....	\$170.
Amendment.....	\$120.
F. Licenses for possession and use of less than 10,000 curies of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes:	
Application-New license.....	\$560.
Renewal.....	\$350.
Amendment.....	\$230.
*** G. Licenses for possession and use of 10,000 curies or more of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes:	
Application-New license.....	\$2,300.
Renewal.....	\$630.
Amendment.....	\$230.

\* licenses

\*\* use

\*\*\* use

# SCHEDULE OF FEES FOR MATERIALS LICENSES AND OTHER REGULATORY SERVICES—Con- tinued

Category of materials licenses and type of fee	Fee *
H. Licenses issued pursuant to subpart A of Part 32 of this chapter to distribute items containing byproduct material that require device review to persons exempt from the licensing requirements of Part 30 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of Part 30 of this chapter:	
Application-New license.....	\$580.
Renewal.....	\$230.
Amendment.....	\$120.
I. Licenses issued pursuant to subpart A of Part 32 of this chapter to distribute items containing byproduct material or quantities of byproduct material that do not require device evaluation to persons exempt from the licensing requirements of Part 30 of this chapter, except for specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of Part 30 of this chapter:	
Application-New license.....	\$290.
Renewal.....	\$230.
Amendment.....	\$60.
J. Licenses issued pursuant to subpart B of Part 32 of this chapter to distribute items containing byproduct material that require sealed source and/or device review to persons generally licensed under Parts 31 or 35 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons generally licensed under Parts 31 or 35 of this chapter:	
Application-New license.....	\$1,200.
Renewal.....	\$700.
Amendment.....	\$230.
K. Licenses issued pursuant to subpart B of Part 32 of this chapter to distribute items containing byproduct material or quantities of byproduct material that do not require sealed source and/or device review to persons generally licensed under Part 31 or 35 of this chapter, except for specific licenses authorizing redistribution of items that have been authorized for distribution to persons generally licensed under Parts 31 or 35 of this chapter:	*****
Application-New license.....	\$290.
Renewal.....	\$230.
Amendment.....	\$60.
L. License of broad scope for possession and use of byproduct material issued pursuant to Parts 30 and 33 of this chapter for research and development that do not authorize commercial distribution:	
Application-New license.....	\$1,200.
Renewal.....	\$700.
Amendment.....	\$120.
M. Other licenses for possession and use of byproduct material issued pursuant to Part 30 of this chapter for research and development that do not authorize commercial distribution:	
Application-New license.....	\$700.
Renewal.....	\$460.
Amendment.....	\$120.
N. Licenses that authorize services for other licensees, except for leak testing and waste disposal pickup services:	
Application-New license.....	\$630.
Renewal.....	\$630.
Amendment.....	\$120.

\*\*\*\* licenses

\*\*\*\*\* license

# SCHEDULE OF FEES FOR MATERIALS LICENSES AND OTHER REGULATORY SERVICES—Con- tinued

Category of materials licenses and type of fee	Fee *
O. Licenses for possession and use of byproduct material issued pursuant to Part 34 of the chapter for industrial radiography operations:	
Application-New license.....	\$700.
Renewal.....	\$700.
Amendment.....	\$230.
P. All other specific byproduct material licenses, except those in categories 4A through 8D:	
Application-New license.....	\$230.
Renewal.....	\$120.
Amendment.....	\$60.
4. Waste disposal:	
A. Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of commercial disposal by land burial by the licensee, or licenses authorizing contingency storage of low level radioactive waste at the site of nuclear power reactors, or licenses for treatment or disposal by incineration, packaging of residues resulting from incineration and transfer of packages to another person authorized to receive or dispose of waste material:	
Application.....	\$150.
License.....	\$803,700.
Renewal.....	\$265,600.
Amendment.....	\$46,400.
B. Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of packaging or repackaging the material. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material:	
Application-New license.....	\$1,400.
Renewal.....	\$930.
Amendment.....	\$350.
C. Licenses specifically authorizing the receipt of prepackaged waste byproduct material, source material, or special nuclear material from other persons. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material:	
Application-New license.....	\$930.
Renewal.....	\$480.
Amendment.....	\$120.
5. Well logging:	
A. Licenses specifically authorizing use of byproduct material, source material, and/or special nuclear material for well logging, well surveys, and tracer studies other than field flooding tracer studies:	
Application-New license.....	\$700.
Renewal.....	\$700.
Amendment.....	\$170.
B. Licenses specifically authorizing use of byproduct material for field flooding tracer studies:	
Application.....	\$150.
License.....	Full cost <sup>a</sup> *****
Renewal.....	Full cost <sup>a</sup>
Amendment.....	Full cost <sup>a</sup>
6. Nuclear laundries:	
A. Licenses for commercial collection and laundry of items contaminated with byproduct material, source material, or special nuclear material:	
Application-New license.....	\$700.
Renewal.....	\$700.
Amendment.....	\$170.
7. Human use of byproduct, source, or special nuclear material:	

108623



(FOR LFMS USE)  
INFORMATION FROM LTS

```
PROGRAM CODE: 03620
STATUS CODE: 0
FEE CATEGORY: 3M
EXP. DATE: 19900228
FEE COMMENTS:
```

A. REGION

SIGNED  
DATE

69

3132/88

1. FEE CATEGORY AND AMOUNT:

3M.

#120

3. OTHER

SIGNED  
DATE

S. Kimbrough  
4/6/88

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)  
INFORMATION FROM LTS

PROGRAM CODE: 03620  
STATUS CODE: 0  
FEE CATEGORY: 3M  
EXP. DATE: 19900228  
FEE COMMENTS:

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

APPLICANT/LICENSEE: ICI AMERICAS, INC.  
RECEIVED DATE: 880324  
DOCKET NO: 3016018  
CONTROL NO.: 108623  
LICENSE NO.: 06-19068-01  
ACTION TYPE: AMENDMENT

2. FEE ATTACHED

AMOUNT: 120.00  
CHECK NO.: 1075

3. COMMENTS

SIGNED  
DATE

BP

3/30/88

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED 1-4)

1. FEE CATEGORY AND AMOUNT:

3M

\$120

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:

AMENDMENT ✓

RENEWAL

LICENSE

3. OTHER

SIGNED  
DATE

A. Kimberley  
4/6/88