



TO: U. S. Nuclear Regulatory Commission, Region III  
Materials Licensing Section  
799 Roosevelt Road  
Glen Ellyn, IL 60137

FROM: Bob McLeester, Radiation Safety Officer

SUBJECT: Amendment to U.S. NRC Material  
License number 48-20133-01

DATE: October 10, 1984

Form NRC 3131

Delete: 6c. John J. Kelley, Administrator

Add: 6c. Bob McLeester, Research Associate  
6d. Les Hoffman, Research Scientist  
6e. Mike Murray, Senior Research Scientist  
6f. Ed Appelbaum, Senior Research Scientist  
6g. Jane Cramer, Research Scientist  
6h. Eric Johansen, Research Scientist  
6i. Don Merlo, Research Scientist  
6j. Dennis Sutton, Research Scientist  
6k. Nancy Jarvis, Research Associate  
6l. Roger Drong, Research Associate

Delete: 7. John Joseph Kelley, Administrator

Add: 7. Bob McLeester, Research Associate

Delete: 16c. John Joseph Kelley resume

Add: 16c. thru 16e. - resumes - attached

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enclosures

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#### 6c. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF BOB McLEESTER

##### Training

- 1965 Completed 3-credit course in plant physiology research methods, taught by Prof. Al Link at the University of Minnesota, St. Paul, Minnesota. Two weeks were devoted to laboratory use of  $^{14}\text{C}$  and  $^3\text{H}$ , including safety, measuring and monitoring, calculations, and biological effects.
- 1965-67 Informal training in laboratory under Prof. Conrad Wieser, Dept. of Horticulture, St. Paul, Minnesota.

##### Experience

- 1967-81 As a specialist in Prof. T. C. Hall's laboratory in the Dept. of Horticulture at Madison, Wisconsin, I performed research in the study of protein and nucleic acid metabolism of higher plants. This involved in-vivo incorporation with  $^{14}\text{C}$  carbonate, in-vitro incorporation with  $^{32}\text{P}$  ATP and  $^3\text{H}$  amino acids. I kept the radioisotope records, provided safe storage, monitored the labs with Geiger counters and wipe tests, and provided safe disposal of wastes. I also instructed and tested students in the safe use of radioisotopes. The text used was "Radiation Safety for Laboratory Technicians" by Charles A. Kelsey.
- 1981-84 As research support manager at Agrigenetics Advanced Research Division, I provided and monitored the safe storage and disposal of radionuclide wastes.

I have had experience in the use and safe handling of:

$^{14}\text{C}$ :1Ci,  $^3\text{H}$ :5Ci,  $^{125}\text{I}$ :1mCi,  $^{32}\text{P}$ :50mCi

#### 6d. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF LES HOFFMAN

##### Training

1974 As a graduate student at Medical College of Virginia/VCU, I took a one semester course on radioisotopes. The course covered the areas of principles and practices of radiation protection, radioactivity measurement, calculations of radioactivity and biological effects of radiation.

##### Experience

I have approximately 11 years of total experience with radiation including:

- a) 3 years in Richmond, Virginia at the Medical College of Virginia/VCU Biochemistry Department.
- b) 4 1/2 years as a postdoctoral fellow at McArdle Laboratory and the Department of Biochemistry, U. W. - Madison.
- c) 3 1/2 years at Agrigenetics Advanced Research Division

<u>Isotope</u>	<u>Maximum Acitivity</u>
$^3\text{H}$	0.5 mCi
$^{14}\text{C}$	0.5 mCi
$^{35}\text{S}$	1.0 mCi
$^{32}\text{P}$	1.0 mCi
$^{59}\text{Fe}$	1.0 mCi

## 6e. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF MIKE MURRAY

### Training

Primary training in principles of radiation practice, measurement, monitoring instruments, and calculations has been from my advisors/supervisors. More formal training in the above and in the biological effects of radiation involved studying the manuals and passing written tests for Stanford University (Fall, 1976) and the University of Wisconsin (Fall, 1981).

### Experience

June 1969 - June 1971

Dr. Clean Ross (supervisor) Colorado State University

$^3\text{H}$  and  $^{14}\text{C}$  purine precursors (max. levels used at any one time, 5u Ci)

June 1971 - April 1976

Dr. Joe Key (Ph.D. major professor) University of Georgia

$^3\text{H}$  and  $^{14}\text{C}$  nucleotide precursors (max. = 5u Ci). Inorganic  $^{32}\text{P}$  (max. = 5mCi).

June 1976 - June 1981

Dr. William Thompson (supervisor) Carnegie Institution of Washington

$^3\text{H}$  and  $^{14}\text{C}$  nucleotides (max. = 5u Ci)

$^{125}\text{I}$  (max. = 1mCi)

$^{203}\text{Hg}$  (max. = 1mCi)

$^{32}\text{P}$  nucleotides (max. = 1mCi)

July 1981 - Present

Agrigenetics Corporation

$^3\text{H}$  and  $^{14}\text{C}$  nucleotides (max. = 5u Ci)

$^{32}\text{P}$  nucleotides (max. = 1mCi)

#### 6f. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF ED APPELBAUM

##### Training

- 1978 Completed a course (2 days) at National Institute of Health, Bethesda, MD for people on the NIH research staff who use radioactivity. Course included (a) principles and practices, (b) measurement & monitoring, (c) calculations, and (d) biological effects
- 1970 Completed a 1 credit course on biochemical techniques in Dept. Biochemistry, University of Wisconsin. At least 2 days of this lab course were devoted to lectures & labs concerning isotopes (a,b,c,d above)

##### Experience

- 1970-1984 Frequent use of  $^{32}\text{P}$ ,  $^3\text{H}$ , and  $^{14}\text{C}$  (millicurie and Microcurie amounts) in the course of my own laboratory research. Maximum amounts: 1 millicurie of each in any one experiment usually less than 100 mCi

## 6g. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF JANE HARRIS CRAMER

### Training

- 1964-66 Graduate Education - Northwestern University, Chicago, Illinois  
Ph.D., Microbiology (1970) Minor, Biochemistry. Public health service  
predoctoral trainee, Microbiology Department, Northwestern University  
Medical School. Research advisor Dr. Anne Haywood.
- 1966-70 California Institute of Technology, Pasadena, California. Public Health  
Service Predoctoral Fellow, Biology Division, California Institute of  
Technology. Research advisor Dr. Robert Sinsheimer. On leave from  
Northwestern University Medical School from which Ph.D. was received.

Training included laboratory instruction on the use of  $^3\text{H}$ ,  $^{14}\text{C}$  and  $^{32}\text{P}$ .

### Experience

- Public Health Service Postdoctoral Fellow, Laboratory of Molecular Biology,  
University of Wisconsin-Madison.
- 1970-71 Research with Dr. Harlyn O. Halvorson
- 1971-74 Research with Dr. Robert H. Rownd.
- 1974-77 Assistant Scientist, Laboratory of Molecular Biology, University of  
Wisconsin-Madison
- 1977-82 Associate Scientist, Laboratory of Molecular Biology, University of  
Wisconsin-Madison
- 1981-present  
Research Scientist, Advanced Research Division, Agrigenetics Corporation,  
Madison, Wisconsin.
- Experience includes use of  $^{14}\text{C}$ (100uCi),  $^3\text{H}$ (0.5-1mCi),  $^{32}\text{P}$ (0.1-1mCi) and  
 $^{125}\text{I}$ (1-2uCi)

## 6h. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF ERIC JOHANSEN

### Training

Jan. 1981      Optional non credit seminars in the areas of a) principles and practices of radiation protection, b) radioactivity measurement standardization and monitoring techniques and instruments, c) mathematics and calculations basic to the use and measurement of radioactivity and d) biological effects of radiation - by Mitch Galanik, M.I.T. - Four 2 hour seminars.

Jan. 1982      One hour interview with Mitch Galanik, M.I.T. before working with isotopes.

### Experience

$^{125}\text{I}$  for immunoradiometric assays. Max activity 0.5 mCi, most work done with mCi levels, M.I.T., Department of Biology.

$^{32}\text{P}$  for DNA hybridizations. Max activity 100 mCi, most work done with mCi levels at Agrigenetics.



#### 6i. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF DON MERLO

##### Training

1968      One semester (4 credit hours) course in "Principles and Practice of Radiotracer Methodology in Biology". Included 1 laboratory per week. University of Nebraska, Lincoln, NE.

##### Experience

I have used  $H^3$ ,  $C^{14}$ , and  $P^{32}$  for 16 years. The maximum amounts; 5mCi -  $P^{32}$ , 1mCi -  $C^{14}$ , 1mCi -  $H^3$ .



## 6j. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF DENNIS SUTTON

### Training

Took course called Advanced Biochemistry from Dr. Wagoner at Northern Michigan University, where part of Lab & Lecture included measurement, handling & safety in use of radioisotopes.

Read and passed tests on radiation safety given by Health Physics Dept. at University of Wisconsin - Madison.

### Experience

1969-82      Used radioactive  $P^{32}$  up to 10mCi,  $H^3$  up to 5mCi &  $C^{14}$  up to 250mCi at one time at the University of Wisconsin, Dept. of Plant Pathology under supervision of Dr. John Kemp.

1982-present

Use 5-10 mCi  $P^{32}$

#### 6k. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF NANCY JARVIS

##### Training

1979      Training by Dr. R. Beachy at Washington University, St. Louis in use and monitoring of radioactive compounds. Received approval for use of radioactivity by passing exam based on the Washington University Radiation Safety Manual.

##### Experience

1979-present

Extensive use of nucleic acids and amino acids containing  $^{32}\text{P}$ ,  $^3\text{H}$ , and  $^{35}\text{S}$  for radioactive tagging of biological molecules.

1981-Present

In charge of monitoring, labeling, and cataloging incoming radioactive materials at Agrigenetics Advanced Research Division and relegating decayed isotopes to radioactive storage.

## 6I. TRAINING AND EXPERIENCE IN RADIATION SAFETY OF ROGER F. DRONG

### Training

1960-63 Michigan Technological University, Dr. Royal F. Makens

### Experience

1960 Use of nucleotides. Monitored cooling water from subcritical reactor at Michigan Technological University (under 1mCi of radiation involved)

1967-76 Used radioactive ( $^{14}\text{C}$  &  $^3\text{H}$ ) nucleotides in enzymatic assays & incorporation into cellular & phage DNA, University of Minnesota (1-2mCi max. at any time).

1977-81 Used  $^{32}\text{P}$ -A-TS to investigate protein kinase reactions (10-20 mCi max. at any time), V. A. Hospital, Madison, WI.

1977-81 Used  $^{14}\text{C}$ - $\text{HCO}_3$  in enzymatic reactions (1mCi max. at any time) V. A. Hospital, Madison, WI

1982-Present

$^{32}\text{P}$  nucleotides used to end label & nick translate DNA (100mCi max. at any time) Agrigenetics Advanced Research Division, Madison, WI.