

130-05278



United States Testing Company, Inc.

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March 16, 1992

Industrial Application Section
Division of Radiation Safety and Safeguards
United States Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, Pa. 19406-1415

Attn: Mr. James P. Dwyer

Re: NRC License No: 29-02477-05
Docket No: 030-05278

Log	_____
Remitter	_____
Check No.	2411
Amount	333
Fee Category	SI
Type of Fee	222
Date Check Rec'd	_____
Date Completed	_____
By:	<i>[Signature]</i>

Dear Mr. Dwyer:

The purpose of this letter is to request the reference license to be amended to add the following:

- | | | |
|---------------|---------------|--------------------|
| Item 6 | Item 7 | Item 8 |
| C. Carbon 14 | C. Any | C. 200 microcuries |

Item 9
C. For use in the investigation of biodegradability and fate studies on research chemicals.

Item 11
Change: A. License radioactive materials to be used by, or under the supervision, of Dr. Alan Schoffman or Daniel Drozdowski.

The following radiation safety controls shall apply:

- 1) The licensed radioactive materials shall not be used in or on human beings or in products distributed to the public.

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- 2) The Carbon 14 materials shall be stored in labeled containers in the designated work areas shown on figure 1. The container will be labeled with:

- "Caution - Radioactive Materials"
- Radioisotope - Carbon - 14
- Activity and date of calibration
- Date of Purchase

An inventory log shall be maintained for each container of licensed material to demonstrate utilization.

- 3) Waste disposal shall be accomplished as follows:

- a) Solid waste will be packaged for collection and disposal by a licensed radioactive waste broker such as:

Teledyne Isotopes
50 Van Buren Avenue
Westwood, N.J. 07675

- b) Liquid wastes will be collected in a five gallon container and a representative sample submitted to:

Teledyne Isotopes Inc. or New York University Medical Center for radioactivity analysis. If the results are within the limits, the liquid may be released in accordance with 10CFR20 paragraph 303. If not, the liquid will solidified in cement and disposed as solid waste in accordance with paragraph 3 (a) above.

- c) Unused Carbon-14 tagged chemical will be returned to the vendor for disposal or solidified and handled as solid waste.

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4) Instrumentation

No survey instruments will be utilized. All contamination survey swipes, air and water sample analysis will be subcontracted to the location listed in paragraph 3b above. A low volume air sampler (2-4 l/min) with suitable bubbler collection systems will be available in the event of spills for confirmatory measurements of potential airborne concentration in the work area. It is not conceivable that any worker would be exposed to airborne concentration in excess of 10% of the annual intake limit for Carbon 14.

5) Personnel Monitoring Devices

Such devices will not be employed. Confirmatory bio-assay sampling may be conducted, compatible with the air sampling and routine contamination surveys results.

Radioanalysis of such samples will be conducted by either of the agencies listed in paragraph 3b above.

6) Laboratory Facilities

The Carbon 14 materials will be used and stored in the Test Room identified Figure 1. All preparation operations for the dilution of Carbon-14 labeled chemicals will be conducted in the Biochemistry Lab Hood. This hood has a minimum face velocity of 80 linear feet per minute and is vented directly to the atmosphere.

Individual experiments will be conducted within closed reactor systems located in the Test Room. Such enclosures will be vented to the atmosphere through a suitable chemical scrubber. The scrubber solution will be sampled and analyzed upon completion of the experiment or each week whichever is sooner.

The entire fifth floor area is under security control requiring coded card access during non-working hours. The test room is locked and access limited only those authorized by persons listed in under license condition 11 and the RSO's.

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7) Radiation Protection Program

- a) Only persons authorized by individuals listed in license condition 11 will be permitted to work with Carbon-14.
- b) These person will be given training by the Corporate RSO concerning biological effects and safe handling requirements for Carbon-14. The Project Manager will train the persons to the approved protocol,
- c) All glassware employed for these experiments with Carbon 14 will be separated and restricted to the Test Room. Solutions used for decontamination will be collected and sampled for disposal.
- d) "Radioactive Material" signs shall be posted on rooms where the Carbon-14 is used on stored if the storage duration is greater than eight hours.
- e) Absorbent materials and plastic shall be employed to minimize the potential spread of contamination in event of spills.
- f) Hand protection and lab coats will be employed for operations with Carbon 14.
- g) Routine contamination smear surveys will be conducted monthly. Special "swipe" surveys will be conducted after each dilution in the hood and after each experiment is dismantled. These special surveys will be conducted before the areas are released for routine use. Those areas having removable contamination greater than $1000 \text{ d/m}/100\text{cm}^2$ as determined by dry smears will be restricted and decontaminated to levels below $1000\text{d}/\text{m}/100\text{cm}^2$.
- h) Smoking, eating and drinking will be prohibited in the Test Room.

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- i) Separate but designated containers shall be supplied for both liquid and solid radioactive waste collection.
- j) In the event of a spill outside of the hood, the operator shall turn on the low volume room air sampler, exit the area after removing gloves, lab coat and shoes if the latter have been contaminated. Initiated the emergency call list and stand by for instructions from the RSO.
- k) Each protocol requiring the use of Carbon-14 will be reviewed by the Project Manager and the Corporate RSO to evaluate potential hazards and establish controls as may be necessary. One such control will be the minimizations of quantity of Carbon-14 used for each protocol.

8) Training and Qualifications

Mr. Drozdowski the Project Manager, has ten years experience in laboratory management. He has conducted biodegeneration studies utilizing low level concentration of Carbon-14 under NRC License No. 29-02477-08 Docket No. 030-17167 previously issued to the United States Testing Company. Such license was terminated in 1986.

Dr. Schoffman is the Senior Vice President responsible for all laboratory testing operation conducted under this license.

All operators working with Carbon-14 will be given a minimum of 4 hours training in the biological effects of Carbon-14 and the safe handling of microcurie quantities.

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Enclosed is our check for \$380.00 as required for the amendment fee. We are requesting this request be expedited.

If you require additional information please call the undersigned at (201) 792-2400 ext. 297 or Linda Monro ext. 389.

Sincerely,

UNITED STATES TESTING COMPANY, INC.


J.A. Mohrbacher
Corporate, Radiation Safety Officer

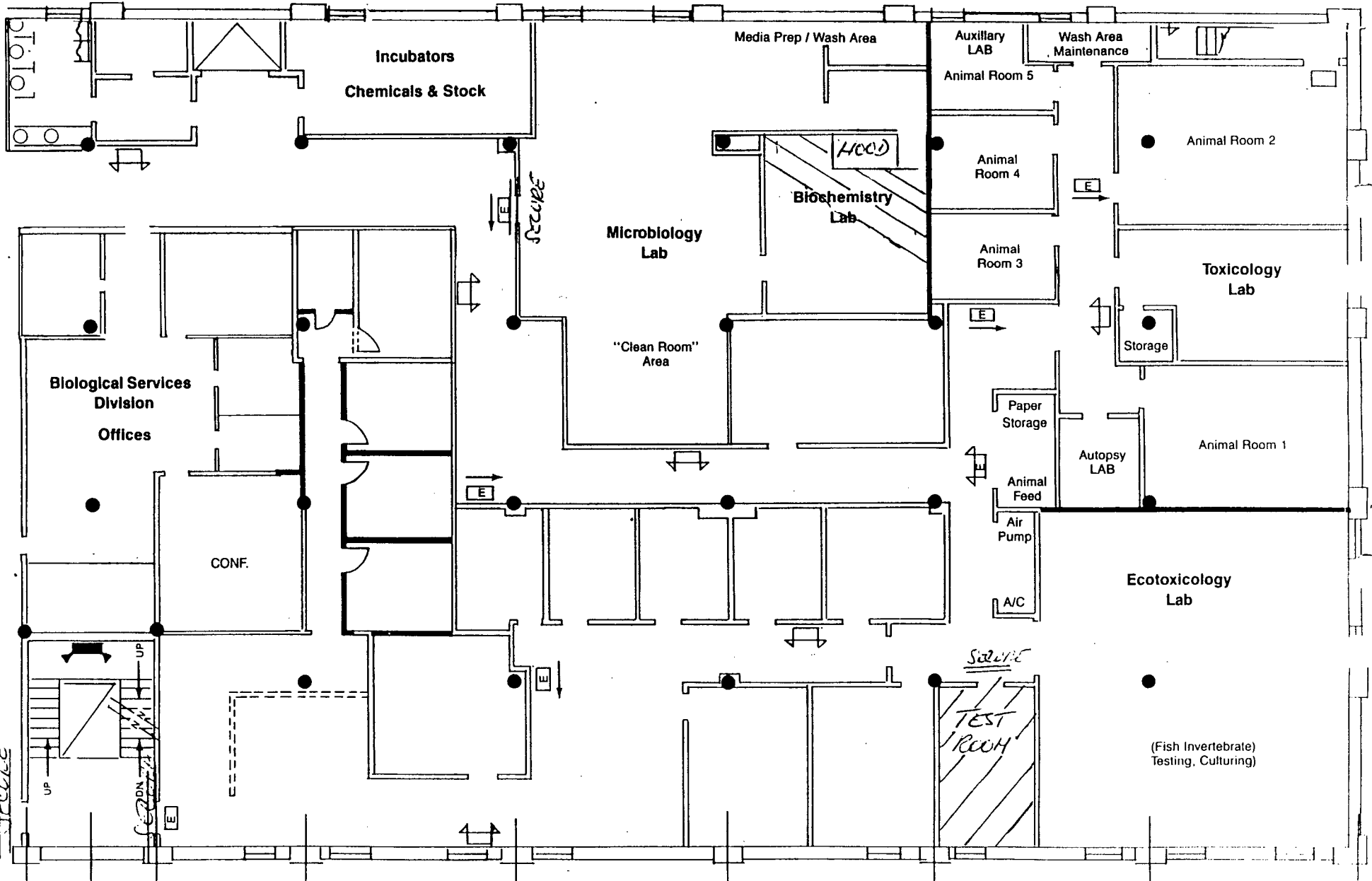
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Enclosure: Check No. 241017

BIOLOGICAL SERVICES DIVISION

Floor Plan - 5th Floor South
(7,000 Sq. Ft.)

— Entrance ways



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