



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

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Northwest and Alaska Fisheries Center
Environmental Conservation Division
2725 Montlake Boulevard East
Seattle, Washington 98112

September 5, 1985

F/NMFS:WTR

Dr. Beth Riedlinger
Health Physicist
United States Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596

Dear Dr. Riedlinger:

Finally, after a delay of summer vacations and arrangements with the University of Washington, I provide the enclosed reply to your last letter.

After reevaluating our projected use of radioisotope, we would like to amend the request for maximum number of millicuries of I-131 and P-32 to 1mCi of each (all forms) which will be possessed at any one time. These isotopes will be used rarely, once per year at a maximum.

1. The maximal amount of I-125 in a volatile form will be 2 mCi at any one time. Amounts of I-125 which will be possessed in excess of 2 mCi at any one time will be bound to nonvolatile agents. These nonvolatile agents will be radioiodinated steroid, thyroid or protein hormones that will be used in radioimmunoassays.

For the use of liquid iodine-125 or 131, the personnel will wear gloves and lab coats with the sleeve cuffs taped. All work will be done in a radiation safety hood. Bioassay procedures will consist of determining in vivo thyroid counts before and within 24 hours after working with volatile iodine-125 or 131. Depending on the bioassay results, personnel may be subject to biweekly or more frequent bioassays as outlined in regulatory guide 8.20. All personnel who work with iodine-125 or 131 will have a thyroid bioassay at a minimum of once per quarter regardless of the amount or form of the isotope used. Bioassays will be conducted by personnel of the Radiation Safety Office of Environmental Health and Safety of the University of Washington. The University of Washington is authorized under license number WA-001-1 through the Department of Social and Health Services of the State of Washington.

2. For the use of phosphorus-32 individuals will be instructed to review procedures before use of the isotope. A dry run will be performed in order to identify unexpected problems and reduce potential risks of contamination. The laboratory supervisor will be present to review the dry run. Particular attention will be paid to procedures that may

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REGS LIC30
46-06377-04 PDR

FEE EXEMPT



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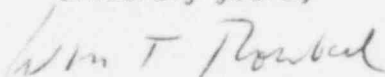
cause aerosol (shaking) or spills or breakage. Personnel will work behind a 1/4 inch thick clear plastic shield in order to minimize Bremsstrahlung radiation exposure. Immediately before actual use of phosphorus-32 a radiation survey and wipe test will be performed to verify low background contamination (less than 200 dpm/100 cm²). Work surfaces will be covered with plastic-backed absorbent pads taped to the surface. An additional survey and wipe test will be performed after the work is completed on a daily basis. All survey results will be maintained as a permanent record. During use of 1 mCi of phosphorus-32 the personnel will wear gloves, lab coat and a ring-type extremity monitor. Records of exposure of the extremity monitor will be kept.

3. Personnel using iodine-125, -131 or phosphorus-32 will wear film badges that will be exchanged on a weekly basis. These will be processed through the Radiation Safety Office of the University of Washington. Permanent records of the exposure of film badges will be kept.

4. Routine radiation level surveys will be performed on a daily basis using a survey meter sufficiently sensitive to detect 0.01 mR/hr. Wipe tests will be performed on a weekly basis in areas where radioisotope is stored or used at levels of 0.2 mCi or greater. Monthly surveys will be performed for all other laboratory areas. Records of survey results will be maintained according to Appendix I of the Regulatory Guide 10.8. Blank copies of the area survey forms are attached. Instruments used in the survey include a Nuclear Chicago Model 2650 (serial #2978M) with a GM probe, a Micromedic systems 4/200 gamma counter (serial #1014) and a Packard 300C liquid scintillation counter for H-3. Instruments will be calibrated twice per year.

Please note, three new rooms (301,303,309) are to be designated for the above studies.

Sincerely yours,



William T. Roubal, PhD., RSO
Research Chemist

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AREA SURVEY

Surveyor's name _____

Survey date _____

Survey equipment _____ Most recent calibration _____

Efficiencies:	cpm/dpm	cpm/nanocurie
C-14	_____	_____
Cl-36	_____	_____
I-129	_____	_____

Measured exposure rates (indicate location on floor plan):

1. _____ Action taken:

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

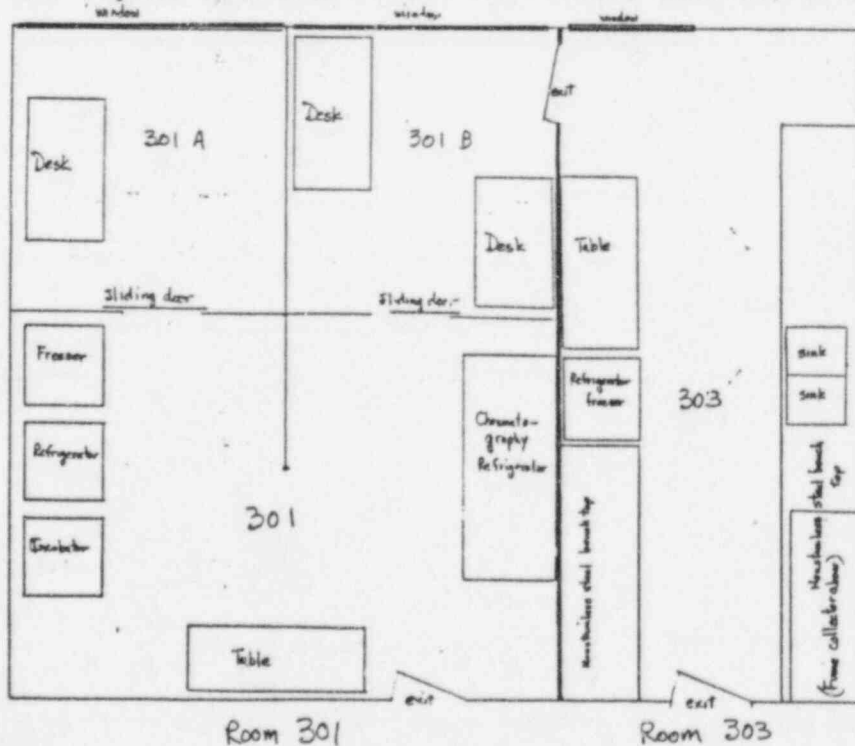
10. _____

11. _____

12. _____

13. _____

14. Beyond work area: check door knobs, handles, telephone, pen, pencil, lab coat.



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AREA SURVEY

Surveyor's name _____

Survey date _____

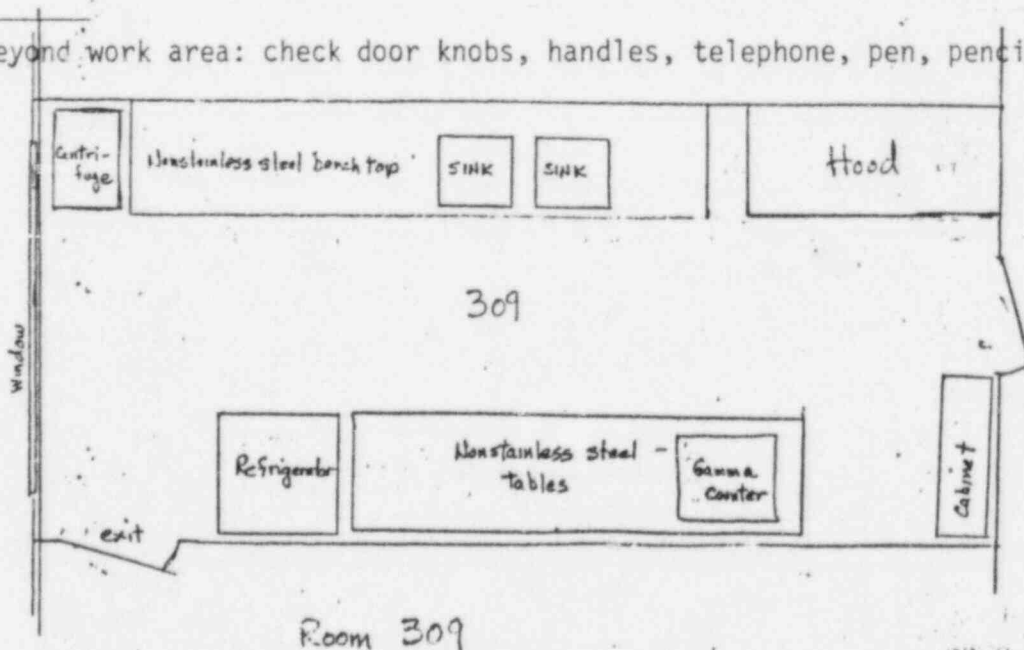
Survey equipment _____ Most recent calibration _____

Efficiencies:	cpm/dpm	cpm/nanocurie
C-14	_____	_____
C1-36	_____	_____
I-129	_____	_____

Measured exposure rates (indicate location on floor plan):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
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9. _____
10. _____
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13. _____
14. _____

15, Beyond work area: check door knobs, handles, telephone, pen, pencil, lab coat.



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